

THE BABY
ITS CARE AND DEVELOPMENT

LE GRAND KERR, MD.

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THE BABY

ITS CARE AND DEVELOPMENT

FOR THE USE OF MOTHERS AND CHILDREN'S
NURSES

BY

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THE BABY—ITS CARE AND DEVELOPMENT



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PREFACE

THERE are many things which all mothers and prospective mothers should know about the infant and its development. There are also some things which, if not thoroughly understood, will result in needless anxiety. If we can give to the mother that practical knowledge, which may be helpful to her in furthering the best interests of her babe, a valuable service has been rendered.

The mother can never take the place of the physician—each has a separate province. The attempt of the former to perform the duties of the latter can only result in harm to the child; therefore, the constant aim in this book has been to secure the intelligent co-operation of mother, nurse and physician.

Knowing the busy life of the average mother, this book has been planned to assist her in readily finding the particular

PREFACE

point on which she seeks instruction without having to study the whole subject at one time. This element of simplicity, and particularly the portion of the book which is arranged chronologically, should conduce to thoroughness upon the part of the mother or nurse, since the immediate needs are brought into prominence at the needed times.

It is to be hoped that this book will be used in the spirit in which it was written;—that of co-operation of all for the best interests of the baby.

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BOROUGH OF BROOKLYN

NEW YORK CITY

PART ONE
GENERAL HYGIENE OF YOUNG
CHILDREN



THE NURSERY

THE selection and the preparation of the room which is to be used as the infant's nursery can and should be attended to some time before the birth of the babe. The time and thought which is spent upon a careful and painstaking arrangement of the room is never wasted. While we realize that in almost every instance we must accommodate the demands for the little one's welfare to the possibilities of the parents to provide, yet there are certain well-defined needs that must be supplied. Whenever possible the nursery should adjoin the room of the mother so that while she may be near to give her babe that care which it will require, the infant will be separated from her in such a manner that her rest will not be unnecessarily disturbed. If the rest of the nursing mother is too frequently broken it will result in the undermining of her health and thereby bring about a reduction in the quantity or a depreciation in the

Selection
of the
Room

Mother's
Rest
Essential

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quality of the milk provided for the infant. The infant is also much benefited by such separation from the mother and is made more amenable to proper training. However, in many homes the use of an extra room cannot be arranged, and under these circumstances the baby will be compelled to occupy the room with the mother. But, although in the same room, the infant must not occupy the same bed as the mother. If it does, one will constantly disturb the rest of the other. The additional danger of overlying the child is not to be lightly dismissed, for instances are by no means rare in which the baby has been suffocated during sleep because the mother occupied the bed with it. The room must be of a good, liberal size, with the possibilities of the admittance of plenty of sunshine and good ventilation. If there is a choice between two rooms, the one with morning sun is to be preferred. One prime essential is that the room be dry and that it be kept so at all times.

Mother
and Baby
Never in
Same Bed

Ventilation
very
Important

Heating of
the
Nursery

By far the best method of heating the nursery is the open fireplace. In this way the best ventilation is secured with the least possible exposure. When the open fireplace is a possibility, less disturbance will be occasioned to both mother and

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baby, if the coals are placed in paper bags and laid upon the grate as needed. This does away with the noise and dirt which always attends the use of a coal shovel. If there are no accommodations for the grate, the Franklin heater holds second place as a desirable means of heating and is easily cared for. In city and town houses, hot air from a furnace is the heat usually supplied and, although not ideal, is a good source of heat. The infant who is brought up in an atmosphere of steam heat unfortunately is made thereby an easy victim to attacks of cold in the head and this must be guarded against if possible. Heating by the use of a gas-stove or an oil-heater is never justified in the nursery, for such means soon vitiate the air and render it unfit for the infant. On general principles a large volume of moderately heated air is better than a smaller volume of very hot air.

Gas-stove
or
Oil-Heater
Bad

It is very necessary that the nursery be kept at an even temperature. The most common mistake is in having the room too hot rather than too cold. The best temperature is one between 68 and 70 Fahr. This should be registered in the center of the room, about three feet from the floor, and not regulated by a thermometer

Tempera-
ture of
the Room

Placing
the Ther-
mometer

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Temper-
ature at
Night

placed off in one corner of the room as is commonly done. At night, during the first two months of life, the temperature may be allowed to drop to 65 Fahr. After the baby is two months old, a night temperature of 55 Fahr. is desirable.

Evidences
in the
Infant of
Too-Hot
Housing

If the room is kept persistently at too high a temperature the infant will soon give evidence of it. It becomes more or less pale, perspires freely, and "takes cold" readily. It also loses its appetite and is subject to frequent and apparently unaccountable attacks of colic and indigestion; in consequence of this the weight is stationary, or the gain is much below what it ought to be. While I have little sympathy with those who insist upon "hardening" babies, it is my common experience that the little ones who "take cold" very easily are, in most instances, so-called hot-house babies. As a matter of fact, children stand low temperatures relatively better than adults.

Lighting
the Room

The room is best lighted by a tallow candle of small size or a night lamp with a small flame. If possible, even these should be so placed that any noxious gases which combustion creates may find some means of escape. An ordinary candle while burning will consume nearly as

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much air as will one adult in the same space of time. If the common gas-flame or kerosene lamp is used the amount of oxygen consumed is equal to what would occur if several adults occupied the room with the child. Therefore, gas or kerosene must be prohibited as a means of lighting.

Gas-flame
and Oil
Lamp
Bad

From the very day of birth the room must be thoroughly aired twice daily with the infant out of the room. If the baby shares the room with the mother the latter may be well protected with blankets while the airing is done, and the baby removed to another room. If, while the windows are widely opened, a towel or sheet is briskly shaken about the room, or an electric fan started, the air is more quickly and surely changed. After the baby is two months of age, an open window at all times is desirable, except in freezing weather. To avoid drafts while the windows are open, several thicknesses of cheesecloth may be fastened to a frame and the frame fastened securely to the window-sash over the part that is to be opened. In this way the wind is broken, and any excess of moisture in the air is taken up by the cloth. Or there may be used a ventilating board, six inches high, and made to fit the win-

How to
Ventilate

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Reversing
the Sashes
to
Ventilate

dow frame accurately; this is placed under the lower sash which is thus forced up six inches, leaving a space between the two sashes in the center of the window through which space the air is admitted freely without any possibilities of drafts. If the sashes of a window are reversed (the bottom sash pushed all of the way to the top and the top sash pulled all the way to the bottom) sufficient air is allowed to find its way into the room to freshen it within a very few minutes. There is no possibility of draft unless one gets directly under the center of the window. This is one of the most efficient methods of ventilation because it requires no apparatus and can be carried out under all conditions of wind and weather.

General
Care of
the Room

No cooking, washing or drying of clothes should be allowed at any time in the nursery. It is desirable that the room be without plumbing. Soiled diapers and clothing must be removed from the room at once and nothing allowed in the room that will contaminate the air. Good fresh air is just as essential to an infant's proper growth and development as is good fresh food, and the mother must see that the baby is supplied with both and with regularity.

GENERAL HYGIENE OF YOUNG CHILDREN

As far as is practical all cracks and dust-collecting crevices should be done away with. Unless the floor is of hard wood (which should remain unpolished), it is better painted, or covered with a linoleum with protective wood strips nailed at the edges to prevent the accumulation of dust under it. The corners of the room may be well protected by placing in them triangular pieces of tin fastened with a long, slender screw nail, which will prevent the dust getting in where it is difficult to remove it. Upon the walls paint is better than paper; but if a careful selection is made of paper with a hard finish, it may be used. When the child gets older, a special nursery paper may be selected with an eye to its educational value, for many of the papers now manufactured have a distinct value along that line. Avoid the use of picture moulding as it is an industrious dust-collector. There should be no heavy draperies in the room, as they shut out light and air and keep in the dust. The windows are best provided with two shades (one light and one dark) and nothing more. A rug makes the best floor covering and it should be small enough to be readily handled so that it may be shaken or beaten while out of the room.

**Furnish-
ings of the
Nursery**

**Paint
Better
than Paper
on Walls**

**Avoid
Mouldings
and Heavy
Drapery**

**Window
Shades**

**Floor
Covering**

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The best material for the rug is carpet.

Furniture All furniture should be selected with such care that it may be easily dusted, and this means that it must be as plain as possible. The style of mission furniture is almost ideal for the nursery. It is well to place the heavier pieces so that it will be difficult or impossible for the infant to get too near

**Chilled Air
near
Window**

to the windows. There is a popular notion that proximity to a window is dangerous only because the sash may be loose and allow drafts to enter. This is true only in part, and the placing of weather strips only helps to deceive and give a false sense of security which does not exist in fact. It is the influence of window glass itself upon the temperature of the room in its immediate vicinity which is the danger. Window glass will very rapidly change the temperature of the air near to it, so that, no matter how well the room is heated, the part close to the glass differs by several degrees from that of the rest

The Bed

of the room. The old-style cradle was bulky, too low, difficult to keep clean and allowed of too much motion. It is rare to find one in use to-day. Its place has been admirably taken by the modern bassinette. This stands somewhat higher than the ordinary bed (except the beds in use

GENERAL HYGIENE OF YOUNG CHILDREN

in some rural districts) and is usually made in two parts—frame and basket. As the basket is readily lifted from the frame and is made of a light wicker, it may be carried about with its precious burden, a convenience which any busy mother may appreciate. A simple and very efficient substitute for the more expensive bassinette may be made by daintily trimming and lining an ordinary wicker clothes-basket of the old style. The mother's taste will decree just what material is used for trimming the outside, but the inside must be warmly lined with blankets. One of the important things about the bed is the pillow used, and a splendid material for the filling is oakum. In health, oakum as a filling for pillows has many advantages, and more during an illness. Cleanliness is always an important consideration. The pillow as ordinarily made is too expensive to destroy when it is soiled by perspiration or vomited material. Practically every baby vomits to some extent. The vomited material lies upon the pillow and soaks in. In time there is the accumulation of months of soiling and the filling becomes a favorable ground for germ development. Oakum may be obtained through a plumber or painter. A bale, tightly

The Pill-
low

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pressed, occupies a space two and one-half feet each way and costs but little. A bale will make ninety good-sized pillows. When soiled, the filling may be removed and thrown away. Hair is a good filling for pillows, but feathers should never be used either for mattress, pillows or covering. When the infant outgrows its basket it usually occupies a crib and these are best made of brass or iron which allow of frequent and easy cleaning. Many cribs are provided with canopies which are intended to carry heavy draperies and this is mentioned simply to condemn their use. No covering should be allowed on the canopy frame unless of the very lightest material or mosquito netting.

Change of
Bed-
Covering

There should be at least two complete changes of the bedding and covers. The necessity for a complete change may arise at any time and particularly if the infant becomes ill.

Cleaning
of the
Room

The room should be frequently cleaned and this must be done thoroughly. All dusting about the room must be done with a dampened cloth or dustless duster so as to gather but not scatter the dust. When the floor is swept it is desirable to freely scatter damp salt or sawdust so that when the room is broomed the dust will be well

gathered. All cleaning should be done with the infant out of the room.

THE CLOTHING

THERE is no use in denying the influence of custom and of fashion even in the matter of the infant's clothing. One will have to be governed to some extent by the prevailing notions as decreed by those who have the making of the baby's wear in hand, but much can be done by the intelligent mother to modify these dictates of fashion so that the health and happiness of her baby will not be compromised. Personally, I strongly favor the use of short clothes for infants of all ages, on the basis of both health and happiness, and recommend the adoption of short clothes from the day of birth. Notice an infant when it is undressed for the bath or for a change of clothing—what is the first thing which the baby does? Kick its legs vigorously just as soon as the burdensome long clothes have been removed; and the kicking is done with evident delight. It was not so long ago that the infant's clothes were made a yard and a half long; then came the time when they were made shorter; now is the time when they must

Short
Clothes

"Shorten-
ing" the
Baby

Essentials
of Infant's
Clothing

be made sensibly short so that exercise is possible at all times with the baby dressed. Of course the prime consideration is the babe, but at the same time the use of short clothes from the beginning saves the mother much work. As a rule, when she has just nicely gained her usual health and strength, it is then time to "shorten the baby," as the common expression is, and that means that a whole new wardrobe must be prepared. However, for some reason, or for no good reason at all except that short clothes seem to be an innovation, many may not be ready to adopt this idea, so the use of long clothes as well as short ones must be considered. There are several absolutely essential things about an infant's clothing. These are as follows: That the chest be warmly clad without restriction of its free motion; that the abdomen be similarly protected; that all weight of clothing be suspended from the shoulders; that the limbs be unincumbered and that the foot covering be warm. In addition to this, it is desirable that the clothing be so simple in its make-up that it may be quickly put on or taken off and all without much handling of the infant. If these essentials are neglected the infant will suffer. Restriction of either the

GENERAL HYGIENE OF YOUNG CHILDREN

chest or abdomen may displace an organ sufficiently to interfere with its perfect functioning. If the limbs be restricted, one of the most active agents of perfect development—exercise will be difficult. Carrying the weights from the shoulder avoids restriction of the waist and its attendant evils. Since the act of dressing and undressing an infant may irritate it or tire it, simplicity of clothing aids in its rapid and easy adjustment. As the purse often decides as to how many of each article of clothing the infant may have, it is perhaps best to avoid numbers.

The needed articles are:

Clothing
for Young
Infants

Abdominal bands 7 x 24 inches, made of the best quality of wool.

Diapers (a very liberal supply), made of cheesecloth doubled and basted at the edge so that they are 18 inches wide by 36 inches long; or in place of these the material may be cotton bird's-eye, 20 inches square when folded once. The advantages of the cheesecloth in very early infancy are the lightness of the diaper, the ease with which it may be changed, its softness compared with other material and the ease with which it may be kept clean. Rubber diapers must not be used.

Long socks of a warm material.

Long-sleeved shirts with high back and of a weight suitable for the season of the year.

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Flannel petticoats (or if long clothes are used, a flannel pinning blanket instead).

White dresses.

Flannel nightgowns for use at night.

**Clothing
for Older
Babies**

As the infant grows, the clothing is more and more modified to meet the changed conditions. The following articles may be provided to suit the changed needs.

Diapers of the materials as suggested but somewhat larger in size, discontinuing the cheese-cloth after the infant is two months old.

Long socks or long, warm booties.

Long-sleeved shirts buttoning in front.

Petticoats of cotton and wool, or flannel, fastening on the shoulders and made short (22 inches from front of neck to bottom of petticoat), unless long clothes are used.

White dresses.

White petticoats.

Flannel nightgowns.

**The
Manner of
Dressing
an Infant**

Civilization has made the clothing of the infant a necessity and that should be met in as simple a way as possible. The constant aim must be to plan the arrangement of the clothing so that in the acts of dressing and undressing the infant will be disturbed as little as possible. The nurse should be seated with the infant in her lap and the clothing must be arranged

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to be drawn over the infant's feet and not over its head. There is no need and there is much harm done in sitting the infant up to dress it. All active movements and all needless ones must be avoided, as they overtax the strength of the baby. While the cord is still on, the dressing of the infant is somewhat modified by that fact. The dressing of the cord is held in place by the snugly-fitted but not tightly-drawn bandage or band. This latter may be basted on rather than pinned. A very common error is in getting the band on too tight and so interfering with free breathing; it should be snugly placed but never tight. The diaper is pinned in front to the flannel band and is so placed that it covers one-third of the thighs. The feet must be warmly clad, best with long, knitted socks held securely in place to avoid exposure. The long-sleeved shirt protects the upper part of the body, while the flannel petticoat protects the lower parts (if long clothes are used the pinning blanket takes the place of the petticoat). The infant is then ready for its dress, although for the first few weeks many may prefer to use simple slips that are similar for both day and night service. If the slips are used, one should not be left on for the

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Influence
of the
Season
upon the
Clothing

full twenty-four hours, but there must be a change at least once during that time. From start to finish of the dressing (except the putting on of the dress) the infant need be turned over but once. While the simplicity of the infant's clothing cannot be too great, yet each individual mother will be allowed much liberty as regards the fineness of the material of the dress, of the needlework and the trim. But it is necessary to avoid large puffs, ruffles or trimmings requiring the use of much starch. The clothing must also fit. If it be too loose for the babe, it will become wrinkled and prove a source of much irritation. On the other hand, if too tight, it will interfere with free breathing and movements of the limbs and may even be a cause of vomiting due to the pressure exerted over the stomach. In the summer, only the thinnest gauze flannel need be used for the average healthy baby. As the infant grows older it exercises more and more and the circulation is very active so that free perspiration is excited. Therefore, it is much better to meet the changes of temperature by an adjustment of the outer clothing. Even during the winter months the flannels should not be too thick or heavy, for the infant will be

indoors most of the time, and when taken out it may be well protected by suitable outer clothing. This brings up the question of the use of veils when the baby goes out, and it is enough to say that they should not be used, except in extremely cold or windy weather. It is necessary to speak of this in detail because of its importance. Diapers must be immediately removed when soiled or wet. We would emphasize this by saying that the removal should be two-fold-removal from the infant and removal from the room. If the diaper is simply wet with urine, it may be used once more without previous washing, if the precaution is taken that it is thoroughly dry before being replaced. However, if it be soiled, it must be put at once into a receptacle provided for that purpose and covered over. Then, as quickly as is possible, it should be rinsed out clean and placed in boiling soapy water, washed out thoroughly, rinsed free from all soap, and finally ironed without starch or bluing. It is not fit for use until this has been carefully done and the diaper is thoroughly dry. The sure consequences of a neglect of these details will be a more or less chafed skin and a cross and irritable baby, if nothing worse.

Care of
the
Diapers

THE BATH

Prepara-
tion Dur-
ing the
First
Week

THE first bath given is of oil and this is used very shortly after birth. If there is opportunity for the selection of the material to be used, benzoinated lard seems to be the best lubricant, but sweet oil or vaseline may also be used to advantage. After the infant has had its first bath of oil, then water made slightly soapy with a pure Castile soap should be used and the temperature of the bath should be 100 Fahr. Water used upon the body must never be used upon the head and face, so two vessels must be provided—one for face water and one for the body water. The room in which the bathing is done must have been previously warmed and it is necessary that the bath be given quickly and with as little disturbance as possible to the infant, so this involves the preparation of all materials beforehand.

Things
Needed for
First
Baths

There will be needed: the lard or oil, a cup of boric acid solution, two towels, face-cloth of gauze, toothpicks and cotton for swabs, basin of water at 100 Fahr. (and, after the first bath, a separate vessel of water for the body), a soothing ointment, baby powder, and a large, warmed blanket. The clothes are placed in a con-

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venient spot where they may be easily reached and preferably should be kept warm. After the navel has completely healed it will be necessary to add a tub to the equipment as the infant can then take a full bath with safety.

To properly give the bath, the infant is wrapped in the previously warmed blanket which protects the whole body. It is then laid upon the nurse's lap while the nurse faces the light, which must be somewhat subdued during the first few days. The head and face are first washed in the lukewarm water and then carefully dried, especial attention being given to the cleanliness of the eyes, nose and ears. The mouth is then gently swabbed out with the boric-acid solution, and a fresh swab is taken for each nostril which is cleaned with the same solution. It is somewhat dangerous for a novice to swab out the ears with the toothpick swab, and so it is best to use the corner of a fine piece of linen, which can do no injury.

At the end of the first bath the whole body is anointed with the benzoinated lard, which is applied freely with very gentle friction and is wiped off with a soft cloth.

On the second day, and thereafter until the navel is healed, the lard is not used, but

Giving
the Bath

Bathing
the Head
and Face

Eyes,
Nose
and Ears

Anointing
at First
Bath

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**Care in
Regard to
the Navel** in its place the infant's body is washed with slightly soaped water. Great caution is necessary that the dressing of the navel is not disturbed or wet. If it becomes wet, it will require a fresh, sterile dressing at once.

Bruises If there are any bruised or broken spots on the baby's skin, these must be anointed with the soothing ointment and covered

The Skin with a bit of sterile gauze. Great care must be used that all the folds of the skin are thoroughly cleaned and dried, and this will apply with special force to fat babies. The skin is then lightly powdered in the skin folds and about the buttocks and genitals. Do not cover the infant's skin thickly with powder, for a light application is all that is needed. Harm may be done by clogging up the pores of the skin if too much powder is used.

**Attention
to the
Genitals** If the infant is a girl the genitals must be carefully cleaned with boric-acid solution. If a boy, the foreskin must be retracted and the parts made clean and freed from all secretions. If impossible to retract the foreskin, this fact should be brought to the attention of the physician.

**Main
Points
about
Giving the
Bath** The main points to remember in giving the bath are that it must be given quickly

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in a warmed room and without unnecessary movement of the babe.

When the navel has completely healed, the infant is allowed the benefit of a full bath in a tub, but with the suggested precaution that the water used on the body be at no time used for the face and head. The same precautions must also be used in giving the bath as were observed during the first few days of life. The full tub bath should be given once daily and preferably in the morning. Any form of tub may be used if the baby is protected from injury. The tub must contain water sufficient to reach the level of the baby's navel.

The Full
Tub-Bath

How Often
to Bathe

The temperature of the water should be 100 Fahr. It is never safe to rely upon the hand as an indicator of the heat of the water, but a bath thermometer should always be used. The temperature of the water is to be taken when the bath is ready for use; if taken earlier a lowered temperature will result by the time the bath is actually given.

Tempera-
ture of
Bath

Before being placed in the tub, the baby's face and head should be washed and dried. The fingers of the left hand should firmly grasp the head and shoulders of the infant so that it is securely held and pre-

Proper
Method of
Holding
the Baby

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vented from slipping. The left hand at the time prevents the head from coming in contact with the sides of the tub. The right hand is left free to grasp the limbs about the knees until the infant is well placed in the bath. Then it is used to wash the baby with.

Time
Spent In
Bath

The length of time that a young infant may remain in the tub with safety is from three to five minutes. When lifted from the tub the infant should be received on a soft towel laid over a blanket. Fold these quickly about the baby and gently roll him from side to side, patting him dry without rubbing. After the skin is fairly dry, pull out the towel, leaving the baby wrapped in the blanket. Pat the blanket all over until the infant is thoroughly dried. It is advantageous at this stage to rub the infant all over gently with the dry, bare hand for a minute or two as this aids very much in a healthful reaction.

When Not
to Give
the Bath

Do not bathe an infant sooner than one hour after its last meal. A full hour should also elapse between the bath and the outing. Do not give the full bath until the navel has healed, for the danger of infecting the wound at the navel is very great and may cost the life of the babe.

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If the baby has a cough it must not be given the full bath unless under the directions of the physician.

Sometimes when the bath is given, the skin of the infant may become bluish in color, the hands and feet may become cold, or the little one may show decided signs of weakness; if any of these things happen, the bath must be discontinued.

If the skin seems tender and about ready to chafe, all bathing with soapy water should be abandoned and a bran bath used in its stead. For the bran bath one pound of bran is placed in a loose bag and placed in the water until thoroughly soaked. Then for five minutes it is squeezed about in the water after which the bath is ready for use. Oatmeal may be used in place of bran, but it takes a longer time to prepare the bath, for the meal must soak for thirty minutes at least. In emergencies, salt may be used in place of bran, using one small teacupful to two gallons of water. When the chafing is severe no water at all should be used, but the infant may be bathed with the benzoinated lard as used in the first bath and instead of being wiped, it is patted dry without any rubbing.

**The Bran
Bath**

**Oatmeal
Bath**

Salt Bath

**Lard Bath
for Severe
Chafing**

We here emphasize the care which constantly must be shown in the bathing of

**Local
Bathing**

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the infant after its soiled diaper has been removed. Whether soiled by urine or by evacuations from the bowels, as soon as discovered the diaper must be removed. Then the buttocks must be bathed and dried and powdered before the new diaper is put on.

Warm
Bath
at Night

While it is desirable as has been suggested to give the infant the bath in the morning, it is often of advantage in older children to give a warm bath at night.

Daily
Baths not
Weaken-
ing

Because of their activities the older child is more apt to need the bath at night and is freshened up by it. In infants who are fretful and irritable toward the end of the day, a warm bath before retiring for the night frequently acts as a sedative and insures a more restful sleep. Give the bath just before the last meal. Daily baths are not weakening as is commonly suggested. It is an excellent plan to have children bathe daily because in this way a habit of regularity is formed and the skin is kept constantly clean and invigorated.

Additions
to the
Bath
Water

With the exception of a good soap, the less one has to do with other things added to the bath water, the better. There is no advantage in adding salt, alcohol or other things to the water.

THE WEIGHT

AN intimate knowledge of the weight of an infant is of great importance, for it is the best indicator that the mother possesses of the general state of the nutrition of the baby. However, mere increase in weight is not the only thing to be aimed at if the infant is to attain its highest development. There must be a consistent general development with the increased weight. A fat baby is not always a healthy baby and, in fact, the reverse is often true. But for the mother who cannot determine the tone of the muscles and the more complicated evidences of efficient development, it would be hardly possible to overestimate the value of watching and recording the infant's weight during the first two years of life and particularly during the first six months.

**Fat Babies
not always
Healthy
Babies**

It is very important to record the birth weight. This is very commonly over-estimated because of the desire of those in attendance to appeal to the pride of the mother who wishes her baby to be bigger than some one else's baby. The making of false or misleading statements may work much harm to the infant because one of our means of determining the condi-

**Import-
ance of the
Birth
Weight**

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Normal
Increases
in Weight

Males
Weigh
more than
Females

Average
Weights

tions surrounding the nutrition of the infant is destroyed. The average infant with no set-backs doubles its birth weight in five months and triples it in one year. For illustration; two babies are born, one weighing six pounds, the other ten. At five months the first baby weighs twelve pounds, while the second weighs eighteen pounds. Although actually six pounds heavier at five months, the second baby has not progressed as well as the first which has doubled its birth weight. This fact should be considered by mothers who are so apt to compare the actual weights without their relation to other things. If the birth weight has not been properly recorded, we lose the great value of this information in the infant's later life. Male babies weigh slightly more than females. An infant that weighs seven and one-half pounds at birth is a good-sized baby and this is about the average for boys. If a baby be born that weighs less than five and one-half pounds, it is fair evidence that there is a general lack of development. Such infants demand special care, for their powers of resistance to external influences are very low.

A loss of weight during the first five days of life is a perfectly natural occur-

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ence, because the amount of nutrition taken in by the infant during these first days does not equal the amount of waste material which is thrown out of the body by the bowel and bladder. This first loss of weight usually amounts to one-twentieth of the original weight and takes place usually during the first four days. The original weight is regained by the seventh to tenth day. If the loss is greater than one-tenth or the original birth weight is not fully regained by the tenth day of life, it is a matter for the most serious investigation; it cannot safely be neglected. From the time that the first loss is made up, the gain in weight should be steady and progressive; if it is not, there is a serious fault somewhere. In premature infants or those who are much underweight at birth, the gain is less rapid and it may require three or more weeks to make up the first loss.

Loss of
Weight
During
the First
Few Days

Birth
Weight
Regained
in Ten
Days

Premature
Infants'
Weight

The difference in the gain between breast-fed and artificially-fed infants should be hardly appreciable. As a matter of fact there are differences, for usually the breast-fed baby outweighs its less fortunate brother. But this difference is due to the fact that artificially-fed babies are more or less subject to digestive disturb-

Difference
between
Breast-fed
and
Bottle-fed
Babies

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ances and are less resistant to external influences so that the food is not assimilated as readily, with the consequence that there is a failure to make such steady gains. But if the food is properly adjusted to the infant's needs from time to time, there will be no marked differences.

**Gradual
Loss in.
Weight**

A gradual loss in weight is usually dependent upon a state of chronic starvation. The infant may be receiving quantity enough but the quality of the food may be poor or the reverse may be true. Sometimes it is only one element of the food that is deficient and in most instances it is the fat or the sugar. If the infant seems satisfied at the time of nursing, but is not satisfied to wait the full time between feedings, it indicates that the quantity is sufficient but the quality is deficient. If dissatisfied at the time of feeding, both the quantity and the quality may be lacking. When the quantity is deficient, the infant usually sucks its fingers and is restless and uncomfortable for a considerable time after feeding.

**Failure to
Gain**

When the infant stops gaining weight its nutrition should be investigated and if this is found to be correct then the general surroundings of the baby may be at fault. Not uncommonly the fault will be found

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in a lack of fresh air. Babies need fresh air and sunshine just as much as they need fresh food and need it just as regularly. If the infant is continually kept in an overheated room or is denied regular outings, the gain in weight may be retarded or stopped.

Or the failure to gain may be simply the beginning of what will be a steady loss in weight if the cause is not removed. It cannot be too often repeated that the gain in weight must be steady and progressive and not merely accomplished by fits and starts.

Occasionally while the teeth are forcing through the gums there will be a failure to gain, but this never lasts more than a very few days when it occurs at all. The weight should be recorded regularly. During the first five months the infant may be weighed once a week and during the next seven months once every two weeks. During the second year the gains are not so steady and if the baby is weighed once a month at that period it is sufficient.

Influence
of
Teething

How
Often to
Weigh
the Baby

The weight should be taken at the same time every weighing day. The best time is in the early part of the forenoon. If taken one day in the forenoon and another

The Time
of Day to
Weigh

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in the afternoon, it will be inaccurate. For illustration: a baby is fed five ounces of food at six A.M. and is bathed, and weighed at eight-thirty, having evacuated the bowel before the bath. The weight is twelve pounds. At nine, twelve, three and six, feedings of five ounces each are given and twelve ounces of urine are passed. If the baby is weighed after six P.M. that same day it will be heavier by the amount of the four five-ounce feedings (twenty ounces) minus the amount of urine voided (twelve ounces), or an apparent gain of eight ounces over the morning weight.

Recording
the
Weights

The records of the weighings should be carefully preserved, for while the need may not be apparent at the time, it may arise at any time and such a record will be of immense value to the physician called in to advise.

The Scales

It is not possible to weigh a baby with any reasonable degree of accuracy in scales which have to be held in the hands while the baby is suspended in a diaper or shawl. No such weight should be accepted as more than a guess. The best scale is the platform scale and while not as attractive as the basket scale is far more accurate. The ordinary baby scale with its attractive basket and trimmings is an ornament to

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any nursery, but the difficulties of obtaining an accurate weight with it are so many that the less attractive but more serviceable platform scale must be substituted. This scale, fitted with a heavy tin or galvanized iron trough, will record the accurate weight of even a struggling, crying infant. A good counter scale may be used if it is provided with the proper scoop.

From a close study of a very large number of babies, it is my opinion that we should not be satisfied that the baby is progressing well unless there is a gain of at least four ounces every week. This is true of a baby up to six months of age, after that the gains are less. If the gain is less than four ounces the cause should be sought for and corrected. Most babies average more than this, but to be put in the "doing well" class four ounces a week would seem to be the practical and safe minimum of gain. On the other hand, there is some danger in too closely following any set standard and I refer now particularly to the common weight chart. It is not uncommon to find a baby overfed and a mother over-anxious because of the endeavor to keep the weight curve up to the standard line on the chart. Any such endeavor leaves out of consideration

**Minimum
Weekly
Gain**

**Danger of
Weight-
Charts**

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the individuality of the baby and it is my constant observation that such a course is not safe. Because a baby does not measure up to a set line is no reason for juggling its food; if it goes above the four ounce minimum, let it alone.

**Very
Rapid
Gains**

**Excessive
Weight**

It is common for many babies who are fed upon artificial foods (particularly those with much sugar, as condensed milk) to gain very rapidly, but this is done at the expense of the proper development of muscle and bone. Excessive weight is just as much a fault of nutrition as underweight and requires similar careful adjustment of the diet and attention to habits.

An over-weight of from two to three pounds may be disregarded if the muscles remain firm. But if the muscles become flabby or the infant perspires easily, the mere fact that there was a large gain cannot be considered as desirable.

SLEEP

**Training
for Sleep**

THE most profound sleep is during the first hour and after that it does not require so strong a stimulus to arouse the infant. However, there is a great deal in the early training of the baby for if ac-

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customed to certain noises which seem to be almost necessary in some homes, the infant sleeps well in spite of them. The healthy, new-born infant sleeps most of the twenty-four hours and during these first days the sleep is usually heavy. During the latter half of the first month sleep becomes less profound and the infant is more easily aroused and sleeps but twenty hours out of the twenty-four. Then comes a gradual and almost imperceptible decrease in the time spent in sleep. At six months the baby sleeps only about sixteen hours. At one year this is further reduced to twelve hours. These are the averages but there are individual differences and sometimes these are marked so that much less time is spent in sleep. Given the proper surroundings, of quiet, of fresh air, of light but sufficient covering and the proper food, the baby will take sufficient sleep for its needs even though that may be less than the average for other babies. Of course the influence of habit is very strong and if the proper measures have not been introduced early in life, sleeplessness may readily occur.

Amount of
Sleep in
the First
Days

Time
Spent in
Sleep
after First
Days

Amount of
Sleep at
Six
Months
and at
One Year

Influence
of Habit

The healthy, well-nourished infant will take all of the sleep that it requires. This is one reason why it should be awakened

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regularly for its feedings; the infant needs the food and needs the sleep and will always take enough of the latter, but by over-sleeping may not get sufficient of the former.

Unneces-
sary Atten-
tions to
Induce
Sleep

It is never necessary to rock, sing or pat a baby to sleep if it has been started right, or to use a pacifier or nipple. The baby never requires these attentions unless someone has started the habit. Such habits grow rapidly and the infant will continue to make greater demands unless they are checked. Usually the habit is started because the sleep is disturbed and the real cause has not been discovered and removed.

Turning
Night into
Day

A common expression, "Turning night into day," is often used to describe the habits of infants who seem determined to sleep most of the day and lie wakeful a large part of the night. Such a habit, because habit it is, cannot be regulated at once, but requires persistence to combat it. Usually it has become a fixed habit because some unnecessary attention has been given to the infant at the wrong time. Rousing the baby for regular feedings will prove of some value if done in the day-time and the room is kept well lighted. The time of the bath and dressing can also

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be arranged so that the infant will be roused by them. Sometimes a warm sponge bath at night is efficient. Many babies are restless at night and not in the day, because the attendants, fearing night air, bundle them up to the point of discomfort. Undue excitement will keep most infants awake, and so the full hour preceding bedtime should be one of quiet in preparation for sleep. The infant should not be excited by noise or play.

Quiet
Essential

Do not get into the habit of lifting the baby from its crib at night to give it any needed attention. It is unnecessary (except to nurse it at the breast) and if the habit becomes fixed, the infant will soon demand that it be frequently taken up. It should be trained to expect that once placed in its crib at night it must stay there until morning. The changing of the diaper, the giving of the bottle (if artificially-fed) and all of the little needed attentions may be accomplished without taking the baby from the crib. If this method is followed from the very beginning it will accomplish much for the rest of all concerned.

Taking the
Infant Up
at Night

A sound, restful sleep is evidence of health and, therefore, when anything is wrong with the baby, disturbed sleep may

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**Disturbed
Sleep**

result. Disturbed sleep is present in all conditions of lowered nutrition whether that be from the food or from improper surroundings, causing anemia (impoverished blood), etc. But the more common cause is related to the food or the method of feeding. Irregularity in the time of the meals is a common cause. In bottle-fed babies it is often over-feeding and in breast-fed babies under-feeding; at least, that is my experience. Habit also plays its part when the baby is fed several times during the night. Real physical discomfort may be the cause, through insufficient clothing at night or what is more common, an over-abundance of clothing or an over-heated sleeping room. Cold feet and an uncomfortable pillow or mattress will cause it. Mild colic which in turn is dependent upon the feeding commonly disturbs the sleep. The least common cause is nervousness fostered by unnecessary habit, such as playing with the infant before bedtime, taking it up or talking to it whenever it shows signs of disturbance, using a pacifier, or patting, rocking or walking it to induce sleep.

**Sleeping
with
Others**

Sleeping with the mother or with another child or attendant must not be tolerated. Even when the purse is flat the

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baby can and should have its separate bed or crib. Of course, it is ideal if the baby can have its own room apart from, but close to, the mother's, but this cannot be accomplished in many homes and the next best is the individual crib.

If protected sufficiently, it is of great benefit for the infant to sleep out-of-doors during the daytime in reasonably good weather. The nutrition will be markedly improved by this because fresh air is a part of nutrition as well as fresh food. In this section of the country, the hours in the summer while the daylight-saving measure is in force may be between six A.M. and eight P.M. and in the winter between nine A.M. and four P.M. These hours may be safely extended under the advice of a physician or when the facilities of the individual home are such that advantage can be taken of sleeping porches or otherwise protected places. There may be no fear of night air; it is only cooler and perhaps slightly more damp than in the daytime, but, on the other hand, it is apt to be cleaner because not filled with the smoke and dust due to the necessary industrial activity of the day. If the baby is given the benefit of a good supply of fresh air, day and night, the sleep will be

Sleeping
Out-of-
Doors

Night Air

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more restful and the general nutrition better.

Excessive
Sleep

Infants never sleep too much. If cough medicines, soothing syrups or other drugs are given, they may stupify the infant and cause excessive sleep. Excessive sleep is an important symptom of some brain diseases, but the infant always shows other unmistakable signs of disease.

THE BABY'S OUTINGS

Effect
Upon the
General
Health

THE oxygen which is contained in good, clean, fresh air, and which is so grudgingly supplied by a stale atmosphere, is as necessary for the growth and proper development of the infant as is the freshness and purity of the milk that it takes. It is simply a difference in the methods of sustaining health and life—both are necessary and both must be as pure as we can secure them. The battle is only half won if we are careful about the freshness of the infant's food and the regularity with which it is given, and are neglectful about the supply of fresh air and the regularity of its taking. Many babies are treated as though they needed more food when the only fault is that they are robbed of a sufficient amount of fresh

GENERAL HYGIENE OF YOUNG CHILDREN

air. If the infant is born in the summer-time, the first outing may safely be at the end of the first week. In winter time the first outing is delayed until the end of the first month. The first outings should be short (not over an hour) and the infant should be in a carriage and not carried in the arms. Sunlight or any strong light directly in the eyes must be avoided. The outings may be quickly extended, so that within a few weeks the infant is out most of the day; in summer between 6 A.M. and 8 P.M. and in winter between 9 A.M. and 4 P.M.

When to
Take the
Infant Out

In winter the things to be avoided are: outings when there is melting snow or melting ice upon the ground, when the winds blow strong, or when it is extremely cold. The feet must always be well protected from chilling. A veil is only needed in freezing weather. In the country it is a simple matter to decide where to take the baby, but in a large town or city the problem may be complicated. If possible, go to some open spot, free from dust and dirt, and where there are not many other children. Where many children congregate and come into close contact, the chance of infection to the young infant is great.

What to
Avoid in
Winter

Where to
Take the
Infant

THE BABY, ITS CARE AND DEVELOPMENT

Airing In-Doors

It is desirable when weather conditions prevent taking the infant out, to give an in-door airing. The room selected for this should be as near the top of the house as possible and one which receives the sunlight. The infant is dressed as for its outing and when the doors of the room are tightly closed the windows are widely opened. An upper room is farther from the street and more apt to be free from noise and dust. I suggest that the infant receive its outing in this manner when there is an epidemic of some contagious disease in the immediate neighborhood and exposure to other children is feared. It is desirable also when the infant needs to be spared the necessary disturbance of being wheeled over uneven streets or exposed to the noises incident to city life.

Sleeping Out-of- Doors

If protected sufficiently, it is of great benefit for the infant to sleep out-of-doors during the daytime in reasonably good weather. The nutrition is markedly improved by this, because fresh air is a part of nutrition as well as fresh food. In this section of the country, the hours in the summer while the daylight-saving law is in force may be between 6 A.M. and 8 P.M. and in winter time between 9 A.M. and 4 P.M. These hours may be safely extended

GENERAL HYGIENE OF YOUNG CHILDREN

under the advice of a physician or when the facilities of the individual home are such that advantage can be taken of a suitable sleeping porch or other protected place. There is no danger in night air; it is only cooler and perhaps slightly more damp than in the daytime, but, on the other hand, it is apt to be cleaner because not filled with the dust and smoke due to the necessary industrial activity of the day.

PART TWO

CHRONOLOGICAL ARRANGEMENT OF THE NEEDS AND CARE OF INFANTS AND YOUNG CHILDREN

With Special Reference to Bringing to the
Mother or Nurse the Immediate Needs and Care
of the Child of a Definite Age.

THE INFANT AT BIRTH

A MALE baby that weighs seven and one-half pounds is a good, average-sized infant; girls weigh about one-half pound less. It is a common thing to hear of infants weighing ten, twelve or even sixteen pounds at birth, but such statements must be received with a great deal of reserve and allowance made for careless weighing, inaccurate scales, guessing the weight, and deliberate deception. It is a common practice to exaggerate the weight in order to please the mother.

At birth the head is often misshapen as a result of the pressure which has been exerted upon it during labor, but ordinarily this should excite no alarm, for within a few hours or at most a few days, the head will assume its proper shape. A very frequent occurrence is the formation of a swelling (caput succedaneum) which appears within a few hours after birth and occupies the portion of the infant's head which has been under the most pressure. The swelling has a bluish, bruised appear-

The
Weight

Exagger-
ated
Weights

Shape of
the Head

Swelling
on Head

THE BABY, ITS CARE AND DEVELOPMENT

Size of the Head ance, but if left alone and protected from further injury it gradually disappears within a few days. The size of the head is best determined by comparing it with the size of the chest at birth because the two are almost exactly the same in measurement. To measure the head a tape is passed evenly around the head just above the ears and eyes. The chest is always measured with the tape on a line with the nipples.

The Legs The legs of the new-born infant are not straight and the tendency of the infant is to turn the soles of the feet toward one another, making the legs look more crooked. There is an exaggeration of this which amounts to a real deformity when the legs cannot be straightened by gentle means, but the physician can readily assure the mother upon this point.

The Breathing The breathing is always very irregular in early childhood. It is practically impossible to count the respirations at first because they are so rapid and so irregular that if counted for even the full minute, each successive count differs.

The Pulse The pulse shares in this irregularity during early infancy.

Temperature The body temperature varies between 99 and 101 Fahr., but the temperature of

CHRONOLOGICAL ARRANGEMENT

all infants and especially **weak** ones, varies for several days.

The tongue is furred with a whitish coating for several days, or even for some weeks, or until such time as the saliva becomes more abundant and aids in clearing the tongue. Such a coating should not be mistaken as an evidence of disordered stomach and the infant medicated. Some infants are born with an abundance of hair, but whether coming into the world with much or little, the hair will probably all be lost within the first few weeks. This should cause no anxiety because it is a natural thing and the new hair which comes in will be permanent.

A lusty cry directly after birth is one of the most welcome sounds, indicating that the most difficult stage of labor is completed, but also indicating that the infant is able to breathe strongly and with vigor. A weak or feeble cry, or an absence of the attempt to cry, proves that the infant is feeble or that the lungs have not sufficiently developed; and if, in addition, there is a persistent pallor and the pulse is fluttering and weak, we at once suspect that its heart is affected. When babies are born with heart disease or when they fail to breathe properly at first, they

The
Tongue

The Hair

Lusty Cry
at Birth

Weak,
Feeble
Cry

Blue
Babies

THE BABY, ITS CARE AND DEVELOPMENT

usually have a bluish color and this is associated with coldness of the hands and the feet. These infants give other evidences of their weakness and are easy victims to all external influences so that they must receive extra care to save them.

Birth-Marks

Notions Regarding Birth-Marks

Birth marks are of two kinds: one where the skin seems simply to be discolored, the other where there appears to be a collection of small blood-vessels or of blood under the skin. Many of these marks are covered with hair and assume most irregular shapes. It is a very common practice among many persons to let their imaginations run riot and to attribute these disfigurements to something in the way of a fright which may have affected the mother during pregnancy. Some show a remarkable ingenuity in inventing such stories. Their strong convictions plus their enthusiasm is very apt to mislead another into believing them, but such things are absurd and no mother should listen to this idle talk. Although probably always present at birth, they are not always noticed until later when their size and color attract attention. Usually they entirely disappear after a long time. Nothing should be done for them until it is determined that they are not becoming less prominent.

THE FIRST DAY OF LIFE

WHEN you recall the rapid and great changes which have taken place in your babe's surroundings at the hour of birth, it will convince you of the need of much care in the attentions to the infant during its first twenty-four hours. The infant must be received into a room that The Room is suitably heated. In addition, there should be a warmed blanket prepared for the baby and under some circumstances it will require a hot-water bottle to add sufficient heat. The details in regard to the selection and preparation of the room will be found on page 1 to 6.

It is quite common for the secretions Care of
the Eyes
Most Im-
portant which are present in the parts of the mother through which the infant must pass as it is born so to affect the little one's eyes that serious results, even amounting to blindness, may occur if they are not properly attended to. Prevention is better than cure and if two drops of a two per cent solution of nitrate of silver are dropped into each eye immediately after birth, disease is prevented. If a physician is in attendance he will care for this in his own way. The disease is evidenced usually by more or less redness of the eyes

THE BABY, ITS CARE AND DEVELOPMENT

(or one eye may be affected alone), appearing on the first day and followed by a discharge of pus on the second or third day. This condition must be reported to the physician at once, for even a few hours' delay may prove serious. In the meantime, great watchfulness must be used to wipe from the eye every bit of the secretion and as soon as it appears. 'All cloths that come in contact with the secretion must be burned and even the hands of the attendant must be frequently and thoroughly disinfected. All manipulations about the eye must be very gently performed and care must be taken that no secretion gets from one eye to the other.

The Navel

Whatever dressing has been placed by the physician upon the stump of the cord should be allowed to remain as long as possible and undisturbed. However, if it becomes soiled with urine or is forced out of place, it may be carefully renewed with a clean dressing (the use of burnt linen is common, not because there is any virtue in it, but because the heat sterilizes the cloth). Dryness of the cord is necessary to aid in its coming off rapidly and any moisture or redness about the navel should be reported to the physician at once. Usually between the fifth and the ninth

**When the
Cord
Drops Off**

CHRONOLOGICAL ARRANGEMENT

day the cord drops off. The infant does not receive a full tub bath until the navel is completely healed, for by so doing there is great danger of infecting the stump of the cord and this may lead to serious results. The room in which the bath is given is prepared as suggested on page 18. The face and head of the infant are washed with slightly soaped water (using Castile soap) at 100 Fahr. and thoroughly dried. Particular attention must be given to secure perfect cleanliness of the eyes, nostrils, ears and mouth. Then the babe is ready for the first bath, which is of oil or benzoinated lard, which is rubbed on with gentle friction and wiped off with a clean, soft cloth, leaving the infant clean and freshened. The folds of the skin are then lightly powdered and if the baby is fat, particular attention must be given to this to prevent chafing. This first bath must be given quickly, but with as little disturbance as possible to the infant. For the details see page 19.

The Tub
Bath
Delayed
until
Navel is
Healed

The First
Bath

After the bath the infant may be weighed and a careful record made of the same. A tendency exists to exaggerate this weight so as to appeal to the pride of the mother who wishes a bouncer for a baby, but an inaccurate statement at this

Recording
the
Weight

THE BABY, ITS CARE AND DEVELOPMENT

time may work considerable harm to the infant later because the birth weight is important for future calculations as to the state of the nutrition. At or very shortly after birth, it is common for the first discharge from the bowel to occur. The material is greenish-black in color and is called meconium. This, like the later discharges, is irritating to the skin so that it must be immediately removed and the parts bathed, dried and powdered. The first article of clothing to be applied is the band or binder, which is placed about the abdomen to protect the dressing of the cord and support the abdomen. This must be placed snugly, but never tightly, and may be basted instead of pinned, to avoid irritation. For the day clothing the only essentials are the band, diaper, long-sleeved shirt, long socks, a flannel petticoat (or if long clothes are used, a flannel pinning blanket), a white petticoat and white slip or dress. For night use, a flannel nightgown. Details are given on page 13.

It is very necessary that the mother and babe both have a good rest before the infant is placed at the breast, for both are tired out by their recent ordeals and the attentions which have been necessary. Usually after eight or ten hours both babe

The First
Bowel
Move-
ments

Clothing

Clothing
for Day

Clothing
for Night

Rest for
Mother
and Babe

Nursing

CHRONOLOGICAL ARRANGEMENT

and mother are ready for the first attempt at nursing and from this very first try the watchword must be—regularity. The first secretion of the breast is called “colostrum” and has but little value as a food, for the babe needs little at first, but it acts as a laxative to the infant. If the baby is a very vigorous one, this may not appease its hunger, so that lukewarm water sweetened with a little sugar may have to be given to the baby. On the first day the infant should be nursed every four hours and should not be allowed to remain at the breast for more than fifteen minutes at one time nor should it be allowed to sleep at the breast. Under the advice of the physician it may be necessary to feed the baby artificially from the first day, but this is unusual and every means must be exhausted to secure for the infant its birthright—breast feeding. If artificially fed, it will be necessary for one to study carefully all the details as found under the chapter on Artificial Feeding.

If the mother is affected with tuberculosis or recently has been so affected, if she has any severe chronic disease, a marked impoverishment of the blood, diabetes, or Bright’s disease, or if the breasts are the site of abscesses or disease, then the

Frequency
of Nursing

Conditions
under
which
Mother
must not
Nurse
Infant

THE BABY, ITS CARE AND DEVELOPMENT

attempt to nurse the babe may properly be abandoned.

Sleep

The infant will sleep practically all of the first twenty-four hours and should be allowed to do so except when the time arrives for nursing and then the babe must be roused and placed at the breast (or given its bottle if artificially fed).

General Care

Visitors, noise, and much light are harmful to the newly-born baby and should be excluded from the room. We feel certain that we have named these three in the order of their ability to do harm to the mother and her babe. It is an unfortunate thing that so many persons will unwittingly or without any intelligent reason advise the mother to use a comforter for her babe until the habit becomes so strong that the little one will not give it up. As far as the infant is concerned, such articles are a constant danger to its health and are unnecessary, for if never used they are never missed. It is a pitiable sight to see a little infant, early accustomed to have one of these things in its mouth, as it gets older, baby-like, drop or throw the thing away and instantly start up a howl for its return. To quiet the babe the nurse will quickly pick the comforter from the dirty floor, or ground,

Comforters, Pacifiers, etc.

CHRONOLOGICAL ARRANGEMENT

hastily wipe it off with a far dirtier handkerchief, and stick it back into the little one's tender mouth. Think of the splendid opportunity for the introduction of disease germs by just this method—we cannot too vigorously condemn the use of all such things.

THE FIRST WEEK OF LIFE

WHEN the daily bath is given, the The Eyes eyes should be carefully washed with a solution made by dissolving one-half teaspoonful of boric acid in a large tumblerful of water that has been boiled. Pus in the Eyes If at any time during these first days there is noticed a secretion coming from the eyes, which is rather thick and like pus, or if the eyelids become swollen or reddened, the physician should be notified at once. The reasons for this are given in detail on page 49.

It is desirable that the new-born baby The Cry cry each day, for in this way it gets much of its exercise, but the crying should not be prolonged for more than five or six minutes, four or five times a day. If persisted in for more than these periods, it usually indicates that something is at fault and the baby is uncomfortable. A loud

THE BABY, ITS CARE AND DEVELOPMENT

Loud
Crying

cry occurring several times through the day or night, suddenly developed and stopping just as suddenly (especially after the expulsion of gas), indicates that the infant has colic. This may be due to wrong feeding or too rapid feeding. An injection into the rectum of two ounces of warm water in which has been dissolved five drops of turpentine will bring almost immediate relief. If the cry is from hunger the baby will continue to fret and cry, but usually not loudly and it may at times suck at its fingers or the bed coverings.

Hunger
Cry

Rupture
Not
Caused by
Crying

There is no danger of rupture because a baby cries. A rupture when it exists is made more prominent during a crying spell and this may have lead to the belief that it was caused by it. Rupture is usually present at birth, but may be unnoticed for weeks or months, until later when the infant suffers from malnutrition which causes flabby muscles and these allow the rupture to become prominent.

The Navel

Usually between the fifth and the eighth day, the cord drops off and when this has occurred the scar should be clean and without evidences of inflammation. Occasionally, for a day or two, a few drops of blood may ooze out, but the application of a small compress moistened with alcohol

CHRONOLOGICAL ARRANGEMENT

will stop this. The navel should be protected from both injury and infection for several days after the cord is off. Powder may be used on the scar, but it is not necessary if the place is well protected with a sterile gauze compress.

As it is not desirable to give the full tub Bath until the navel is completely healed, and as this event is not complete during the first week, for the details of bathing we must refer to the section of Bathing, on page 22. Continue the bath as on the first day of life, applying the same rules in its performance (page 50).

During the first three or four days of the infant's life there occurs a loss of Loss of Weight because the amount of nutrition taken by the baby does not equal the amount of waste material thrown out of the body. It usually amounts to one-twentieth of the original weight. If the loss is greater than one-tenth of the birth weight, it is a matter for serious investigation; it cannot safely be neglected. By the end of the ninth or tenth day this initial loss should have been Regained Birth-Weight regained and if not the cause must be sought and corrected. Whether the gain is made in less time than this or not, from the time the weight is once regained the

THE BABY, ITS CARE AND DEVELOPMENT

increases must be progressive and steady. There should be no difference between the gain of the breast-fed and the artificially-fed baby. As a matter of fact, however, the artificially-fed infant often makes less gain, but this is evidence of some fault in feeding. The weight should be taken and recorded one week from the day of birth.

The Bowels The bowels should now move two or three times a day and after the first three days the stool should lose its original tarry appearance and become brownish in color until the fifth or sixth day, when it changes to the normal yellow-colored stool. The odor by the end of the first week should not be unpleasant, but like sour milk. There should be no mucus in the movements and the water in them should not leave a large stained area on the diaper.

Urination It is not unusual or a cause for alarm if the baby does not urinate for the first thirty-six hours of life. Many infants urinate very often and in small amounts and as the diaper is of an absorbent material it is an easy matter to be misled in this regard, the urine evaporating before it is noticed.

Intervals between Nursings During the first and second day, the intervals between nursings are to be four hours and the infant not to be allowed to

CHRONOLOGICAL ARRANGEMENT

remain more than fifteen minutes at the breast. On the third day the interval is shortened to three hours during the day, with two night feedings and not more than twenty minutes at the breast.

Intervals
of Nurs-
ings on
Third Day
and After

Regularity is the keynote of all successful nursing and there is no more prolific cause of ill-health, colic, sleepless nights, malnutrition and failure to gain than irregular and careless feeding of the young infant. Babies soon acquire the bad habit of fooling at the breast or bottle and this must not be allowed. The habit is easy to break up at first but difficult later. If the tendency is to sleep or loaf at meal-time the baby must be roused and the feeding discontinued so that the infant will appreciate that it must take its food at once or go without until the next feeding. As a rule it is well to use one breast at a feeding and to alternate, using first one and then the other; but if the supply of milk is insufficient both may be used at each nursing. On the part of the mother there must be an insistence upon regularity in nursing her babe, the taking of sufficient exercise in the open, the taking of plenty of good, plain nourishment to keep up the supply of milk, the avoidance of over-eating, regularity of the bowels and

Regularity
very Im-
portant

Fooling at
Breast

Using One
or Both
Breasts

Mother's
Part in
Nursing

THE BABY, ITS CARE AND DEVELOPMENT

Influence
of Emotion
and Con-
stipation

the most careful attention to cleanliness of the breasts. There are two things which are little thought about and yet which have an influence upon the baby through the nursing mother—strong emotion and constipation. When the mother has been recently subjected to strong emotions (as anger, grief, etc.), she should not immediately nurse her baby. It is safer to substitute sweetened water for one or two feedings or until the effect of the emotion may be lessened. Constipation in the mother has a less immediate effect upon the baby, but a marked remote effect. Not uncommonly, a breast milk that apparently causes distress in the infant is condemned when the real fault is habitual constipation in the mother. In those instances in which the breast milk is not sufficient for the infant's needs, it is advisable to resort to mixed feeding until all means have been exhausted to bring the breast milk up to standard. The method of giving part bottle and part breast at one feeding is preferable to that of alternating bottle with breast. In most instances the fault is a reduction in quality not quantity, and this is easily made up by a suitable formula at the same time that regular stimulation of the breast (through

Mixed
Feedings

CHRONOLOGICAL ARRANGEMENT

nursing) is secured by the shorter intervals between feedings at the breast. This method places less strain upon the mother and often there is a gradual improvement which allows the bottle to be gradually withdrawn. In using the mixed feeding it is necessary to have in mind all of the precautions which are necessary when the infant is artificially fed. If the circumstances are such that the baby must suffer the misfortune of artificial feeding, great caution must be used to secure for it the proper kind of food. Many of the details as outlined in the section on Artificial Feeding may seem unnecessary, but I have taken care to simplify them and no detail can safely be disregarded. If the baby must be artificially fed, see pages 125 to 152.

It at first does seem an unkind thing to do to waken a baby that is peacefully sleeping, and mothers are only too ready to accept the argument that the infant needs the sleep and that it will awaken when hungry. However, in spite of this, the infant must be roused to receive its nourishment on time. In the long run and even for immediate results, such a procedure will always result in benefit to both mother and babe. In cases of illness this

Waking an
Infant for
Feedings

THE BABY, ITS CARE AND DEVELOPMENT

rule may be set aside, but only under unusual circumstances. An infant will always take the required amount of sleep, but may not always take the required amount of nourishment unless a regular habit is formed. During the first week the infant will sleep about nine-tenths of the time and nothing but the taking of nourishment and the changing of the clothing or diaper should interfere with this rest. Not uncommonly upon the third or fourth day of life the baby becomes quite yellow (jaundiced), but this is of no particular consequence and may be disregarded unless the color becomes deep. Usually within a few days the color is normal.

Sleep

Jaundice

Swelling on Head Sometimes upon the third day after birth there appears upon the infant's head a swelling which at first rapidly increases in size, then remains in a settled state for several days, and finally slowly disappears. This is called a "cephalhematoma," is soft and elastic to the touch, and the skin covering it is the same as that of the rest of the body. It should be left alone as it only causes trouble if it becomes infected or injured.

Ventilation While every possible means should be used to secure a constant supply of fresh

CHRONOLOGICAL ARRANGEMENT

air, it is desirable that the room be thoroughly aired with the infant out of it. This may be done twice daily, the best times being early morning and late afternoon. For the detail of ventilation see page 5. The first outing is allowed, as **First Outing** a rule, at the end of the first few days if the weather and season permit, but in the winter months it must be delayed until the end of the first month. The outings must be on good days and by that we mean that it must not be windy, wet or with melting snow or ice on the ground. Care must be taken that the sun does not shine directly in the infant's face. The **Hours for Outings** best hours are between 6 A.M. and 8 P.M. in the summer and 9 A.M. and 4 P.M. in the winter. The first outing must be less than an hour, but may be quickly extended so that in a few weeks the infant is out most **In-Door Airings** of the day. In-door airings may take the place of the outings; see page 40.

It would seem at first as though it was **How to Lift an Infant** unnecessary to touch upon how to lift an infant, yet when one sees the various and sometimes injurious ways in which infants are mauled about, it proves the necessity. The objects to be accomplished in lifting an infant are to support the head and the back and to avoid any undue pressure over

THE BABY, ITS CARE AND DEVELOPMENT

either the abdomen or stomach. This is accomplished if the clothing is grasped at the bottom by the right hand, the left being passed under the body with the fingers spread to give wide support to the back and head, and the infant raised upon the left arm.

General Care

Nothing must be allowed about the room or the baby that will unduly excite its unstable and easily irritated nervous system and this means that visitors must be few, noise and light somewhat subdued, and under no circumstances excitement by efforts to play with or amuse the baby.

Kissing, Handling, etc.

The usual hauling, bouncing and kissing which an infant receives during its first days from those who have no right to it, are harmful and should be eliminated. It is quite necessary that parents set an example in this regard. Of course the infant will be kissed by the mother and perhaps by certain relatives, but when this is done it should be upon the forehead. Kissing upon the mouth is dangerous, for the infant is an easy victim to all kinds of germs and an apparently healthy person may carry to the infant serious disease by kissing. Children must never be allowed to kiss the baby, for they are very liable to the infectious diseases from their close

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association with other children and they are excellent carriers.

If the infant is receiving the proper amount of nourishment, it is indicated by a progressive gain in weight after the first week, but at this time may be evidenced by a good color, regular bowel movements, restful sleep and general good nature. If the nutrition is faulty, the infant may be cross and fretful, cry considerable, sleep uneasily, have stools containing lumps, vomit or have attacks of colic. This may be due to irregularity in feeding, poor quality of food, a deficient amount of food, or an overtaxed digestion. The remedy is the regulation of the mode of life of the mother, if that is at fault or the regulation of the diet of the infant. If the milk is scanty, the infant lingers long at the breast in its effort to get enough, but occasionally we find an infant who will try to nurse and, finding the supply is not easily obtained, will leave the breast with a sharp cry, and this may be repeated at frequent intervals. Of course, if the nipples are depressed or misshapen, it may be almost impossible for the infant to take hold of them and this will make nursing so difficult that the infant is tired before sufficient milk has been obtained. Depressed

Indica-
tions that
the Nutri-
tion is
Good

Indica-
tions that
the Nutri-
tion is
Poor

Misshapen
Nipples

THE BABY, ITS CARE AND DEVELOPMENT

Depressed Nipples nipples may demand that a breast shield be used so that the infant can nurse. If the infant makes but feeble attempts at nursing, the cause may be found in some deformity of the mouth, such as tongue-tie or cleft-palate. Until deformities are corrected, feeding may have to be done with a spoon or medicine dropper. If the infant is constitutionally weak, nursing may not be vigorous enough to supply the needed nourishment. Sores in the mouth are not uncommon causes of poor nursing.

Feeble Attempts at Nursing

The Foreskin If the infant is a male the foreskin should be examined to determine if it is possible to draw it back easily. With the foreskin back, the parts should be washed with a boric-acid solution and then anointed with oil or vaseline. The foreskin may then be drawn forward. Cleansing should be done daily. It is common to find that the foreskin cannot be drawn back easily or it is impossible to do so at all. The result is that the infant urinates with difficulty. The secretions which are normally present cannot be washed away and form dry, hard lumps under the foreskin. These irritate the parts and cause inflammation and pain. Pain is most marked when the infant is diapered or tries to urinate. If neglected, this may lead to

CHRONOLOGICAL ARRANGEMENT

serious trouble. 'An infant so affected may be restless, cross and irritable and fail to gain, a very little neglect of these parts resulting often in serious interference with proper development. At times it is possible to stretch the foreskin sufficiently to release it. When this is not easily accomplished, circumcision should be performed. The earlier circumcision is done after the first week the better, as at that time the operation is much simplified and causes little or no discomfort and is not attended with any danger. If delayed, an element of danger is added and the older the child the more severe the procedure.

Early Cir-
cumcision
Desirable
when
Needed

Sometimes the breasts of both male and female infants become enlarged within the first week (or it may be delayed until between three and four weeks), but this is not a serious matter unless the breast is interfered with. It is a bad practice to attempt forcibly to squeeze out the secretion from the breast. In that way much damage is done to the gland and it may even break down into an abscess. All that is necessary is the securing of absolute cleanliness and protection against injury. A snugly placed bandage for a few days gives the needed protection, but care must be observed against having it tight enough

Swollen
Breasts in
Infants

THE BABY, ITS CARE AND DEVELOPMENT

to restrict the chest. Usually with this care the swelling disappears in four to five days.

The Skin

The skin of a new baby is not always pink, clear and smooth. It may be roughened and within a few days after birth be thrown off in small, fine flakes almost like dust or even in somewhat larger pieces. This should occasion no alarm during the first week.

ONE MONTH OLD

Shape of Head

THE head should be oval and symmetrical about this time, and, although there is an increase in size from now on, there should be no marked change in shape. It not infrequently happens that an infant head will appear to be compressed on one side while the other side is more rounded; this is due to the habit of the infant lying always on the same side. No permanent harm will result, but the habit should be corrected so that the head will not be misshapen.

Correct Posture for Nursing

It is important, now that the mother is up and about and the infant getting larger and stronger, that a correct position be assumed during nursing. The mother should be seated upon a low chair or rocker

CHRONOLOGICAL ARRANGEMENT

(preferably without arms), with the foot on the same side as the breast, which is to be used, supported by a low stool or hassock. This allows the mother to bend slightly forward so that the infant will have less difficulty in reaching the breast. It also allows of comfortable support as the infant lies upon the arm. It is necessary for both mother and baby that the act of nursing be accomplished with as little disturbance and strain as possible.

The bowels should now move at least once daily, although it is the habit of some babies in perfect health to have two or three evacuations at this period. The frequency of the stool is of less importance than the appearance at this time. The stool should be smooth, soft and pasty, and of a yellow color, without the appearance of lumps or mucus. However, in noting the appearance of the stool, it is only of value if the stool is fresh and the infant is taking no medicine. A stool that has remained in the diaper for several minutes will become much drier and commonly turns to a more or less greenish color. A green stool may sometimes be caused by the infant taking bicarbonate of soda, calomel and other medicines. It may be discolored dark brown or nearly black from

The
Bowels

Appear-
ance of
the Stool

Green
Stool

Dark
Stool

THE BABY, ITS CARE AND DEVELOPMENT

beef-juice and is always darker when any one of the patent infant foods are taken or when a cereal water is used to dilute the milk.

First Outings

If the infant has come into the world in the winter months it is now time for its first outing. Summer infants are allowed out at the end of the first week. The day must be a selected one, with little or no wind, and not extremely cold. An unfavorable day would be one on which these conditions were present or when there is melting ice or snow upon the ground. The best hours are between 9 A.M. and 4 P.M.

Training the Month-old Infant

It is a foolish prejudice that insists that the infant is not yet capable of training, and if more mothers would disregard such notions the care of the child in later life would be made easier and its disposition more attractive. Regularity of nursing which has been so strongly urged has not alone its healthy influence, but it is of decided educational value in teaching the little one self-control. An infant who is not indulged every time it cries will gradually learn this important quality. Self-control coupled with regularity are two factors of immense value in forming discipline which will be needed in later life. Infants

CHRONOLOGICAL ARRANGEMENT

quickly develop the power of reasoning by associating things which influence their comfort with that feeling of comfort, and so they are gradually led from ignorance to the beginnings of the use of the reason and the will. Just as soon as there is evidence that an infant has a will of its own, that will is capable of training and control, and the longer the control and guidance is delayed the harder will become the task. It is a wise plan at this time to train the infant to use a nursing bottle from which to take small quantities of water. All infants need water occasionally and the giving of it in this manner will accustom the baby to the use of the bottle so that when the time for weaning arrives the process will be made easier as milk may gradually be substituted for water. When not so accustomed the time of weaning may necessitate considerable annoyance to get the infant to take the bottle at all. The temperature of the bath can now be reduced to 98 Fahr., if the infant has remained well and healthy up to this time and has the vigor which it should have. It is still necessary that the bath be given quickly and the little one taken out of the water as soon as the parts are cleaned.

Training
to Use of
Bottle

The Bath

SIX WEEKS OLD

Training
the Bowel

IT is now practical to train the infant to move the bowels at regular intervals and at stated times. This must be regulated somewhat according to the habit of the particular infant and if it has had one evacuation daily this should be continued, but if accustomed to two, the times chosen should be twice daily. The method is to select a time of the day which will be most convenient and let nothing interfere with the act at that hour each day. Place a small vessel, with the chill removed, in the lap between the knees and hold the infant with its back against your chest to support it and then, while in that position, irritate the anus with the tip of the finger or the end of a soap stick until the desired effort is made. It may be necessary to persist in this for several days, or even weeks, but in time the infant will associate the position with the act of moving the bowels and will make the effort. This will avoid forming the habit later when it is more difficult and the accomplishment of this attention at a regular hour spares the mother or nurse much trouble and a healthful habit is taught the infant.

Clothing

By this time the abdominal band may be discarded. It may be replaced by a knitted

CHRONOLOGICAL ARRANGEMENT

band and shirt, but no band is really needed from now on. There is a popular **Abdominal Band Unnecessary** notion which has no basis in fact, that a band must be worn at least through the period of teething or the second summer. This, however, is all notion. The argument is constantly put before me that the abdomen should be kept warm or the infant will suffer. Suffer from what is not usually stated. In several hundred infants stripped by me for examination, a note was made of the position and condition of the abdominal bands worn. In nearly fifty per cent the band was not about the abdomen, but had become displaced and was up over the chest or more rarely down over the hips and in over twenty per cent of the cases it was soiled and wet with urine. If the suggestion has **Diapers** been followed of using cheesecloth for the first diapers, it will now be time to make provision for the change to bird's-eye in another two weeks.

Noticing objects is now an accomplished **Noticing Objects** fact and although previous to this the infant has been attracted by sound and followed it, still there has usually been no well-defined attraction to special objects. Smiling is now an evidence of the pleasure **Smiling** which the baby may experience. Many

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infants are noticed with an apparent smile upon their faces during sleep, but this is a drawing of the muscles of the face while the infant is disturbed but not sufficiently to arouse it. It has had no pleasurable significance until this time.

TWO MONTHS OLD

Effect of
Menstrua-
tion upon
the Infant

MOST women do not menstruate while they are nursing their offspring, but, on the other hand, some women menstruate quite early after their confinement, so that it will be advisable to consider this question at this early period. There is a popular notion that just as soon as a woman begins to menstruate she must stop nursing her baby. This is true only in part, and while the infant is affected to an extent it is only slightly. Certainly it is no good reason for giving up the effort to nurse the little one. For the first day of the menstrual period the milk may be so changed in composition that it will not agree perfectly with the baby, or in some instances a little disturbance of the stomach may be present for two or three days. If this occurs the breast milk may be reduced by giving the infant an ounce or two of sweetened water immediately be-

CHRONOLOGICAL ARRANGEMENT

fore being placed at the breast; in this way the baby does not take as much of the milk. Then after the first or second day the infant is nursed as usual. About this time the sweat glands take on some activity and when the infant is under those conditions which ordinarily cause perspiration, it does so, but not to any marked degree. If perspiration is free and easy, especially about the head and neck, it is an indication that there is some fault with the nutrition. The infant may appear well; that is, it may be fat, but it should always be remembered that a fat baby is not always a healthy one. The flesh must be firm as well as abundant and a fat, flabby baby is much less robust (except in looks) than a leaner, firm-fleshed one.

Perspiration now Active

If the diapers have been made of cheese-cloth, as suggested, it will be proper at this time of life to change and use those made of the more substantial material, bird's-eye, for the baby is now more active and the coarser material will be more suited to its needs.

The Diapers

THREE MONTHS OLD

THE baby should now be trained to get along with one night feeding, so that mother and babe are allowed a more con-

Night Feedings

THE BABY, ITS CARE AND DEVELOPMENT

The Use
of Orange
juice

tinued sleep. When this is done the infant may demand a larger amount at each feeding or a slight increase in the strength of the food (if artificially-fed). It is a fact that all physicians who deal largely with children are forced to face, that occasionally an infant who is nursed by its mother will, in spite of that fact, develop a condition called scurvy. It is caused by the infant being kept too long upon one kind of food which is not perfectly suited to its needs. In some it develops very early. When forced to take artificial feedings there is more danger of scurvy, and when the baby is taking one of the patent infant foods exclusively, the chances of its occurrence are large. The use of condensed and dried milks is a prolific cause of scurvy. Pasteurized or sterilized milk are sometimes responsible. It has been a common experience to find its development in infants whose mothers claim that the infant was taking raw milk, but close questioning has brought out the fact that the raw milk was diluted with a cereal water and this was added to the milk while very hot and, of course, partly cooked it, although this was not appreciated by the mother. The first evidence of the disease is usually the desire of the infant to be left

CHRONOLOGICAL ARRANGEMENT

alone;—any attempt to handle it or pick it up results in discomfort and crying. Many times the pain is first noticed by the mother as the infant is diapered; moving the legs causes distress. This tenderness rapidly increases until the pain may become so acute that jarring of the crib may cause much suffering. Later the gums become swollen and purplish in color and bleed very easily. Black and blue spots may appear over the body and the joints become swollen and tender. The disease is rapidly cured when once understood. But how much better to prevent it. It can be accomplished if a teaspoonful of orange juice is given daily from the time the baby is three months old. This may be increased a teaspoonful every third day until two tablespoonfuls are taken daily. It is better to dilute the juice with an equal amount of water.

The cry at this period of life becomes **The Cry** more typically expressive of the emotions, although in many infants this may be delayed for a month or more. But as the cry is more expressive, it should be more understood. A loud cry, occurring sev- **Loud Cry** eral times, arising suddenly and stopping as suddenly, particularly after the expulsion of gas, is suggestive of colic. An in-

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jection of 2 or 3 ounces of warm water (with or without 5 drops of turpentine into it) into the rectum gives immediate relief. If fever is present also, the cause is not a simple colic but some other condition is associated with it. A continued

Continued
Loud Cry

loud cry, with a stiffening of the body and the head thrown back, may be due to pain, but is usually due to temper. If to the latter, the cause may be found in the fact that the baby did not get what it wanted at the time it wanted it and so rebelled. A

Continued
Sup-
pressed
Cry

continued but suppressed cry is suggestive of some serious fault. The baby cries as though it was afraid to do so out loud and this is persistent. The infant should be examined by a physician to determine the cause.

Continued
Low
Cry

A continued but low cry (more of a moan or whine than a cry) if associated with stationary weight or loss of weight, suggests a serious nutritional fault. Sometimes a hungry baby will suck its fingers and cry with vigor immediately after nursing, but this is not always so, and the cry may be the only indication of its discomfort. If this type of cry occurs regularly an hour or two after nursing, it is suggestive of chronic intestinal indigestion. A short, violent cry usually indi-

Short
Violent
Cry

CHRONOLOGICAL ARRANGEMENT

cates an acute pain and if continued over a considerable period, it should be reported to the physician. When it occurs at the time that the infant is having a bowel evacuation or while passing the urine, it points to some trouble in the rectum or bladder. The most common cause in the rectum is a split in the mucus membrane about the anus. This may be detected if the anus is put on the stretch and a careful inspection made of the membrane just inside of the opening. A tight foreskin may occasion considerable pain when urination is attempted. Crying when placed at the breast would suggest that the milk supply was scanty, or the opposite condition of engorgement of the breast (too full) interfering with the immediate flow of the milk, or that the infant's mouth was sore.

Crying at
Breast

Before this time when the baby has cried, usually it has been with dry eyes, but about the third month the tears make their first appearance in any considerable amount.

The Tears

The salivary glands also become much more active at this time, resulting in the rather sudden production of a large amount of saliva. Naturally the baby will allow this to flow freely from the mouth.

Drooling

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He does not know what to do with it. Usually this excites the suspicion that the infant is teething early. Drooling alone is never a sign of teething and, although it is present when the teeth are coming, it occurs at other times also. Just because the infant drools, do not allow yourself or your friends to poke an offending finger into the baby's mouth in an effort to find the suspected tooth. In so doing there is considerable danger of causing injury or infection. If the drooling is excessive, look into the mouth to find its cause, but keep your fingers out. Drooling most frequently is the first sign of stomatitis (inflammation in the mouth), and if the mouth is inspected it is seen that the lining membrane is reddened, while the tongue has a white, furry coating. Pain may cause the infant to refuse to nurse as usual. This demands the most careful attention to the cleanliness of the mouth. It is desirable that the infant now become accustomed to sleeping in a room with the windows well opened, except in freezing weather.

Ventila-
tion

FOUR MONTHS OLD

OCCASIONALLY during the third month of life an unusually strong

CHRONOLOGICAL ARRANGEMENT

and vigorous infant will be capable of holding its head erect. The average infant, however, does not do so until the fourth month. Even at this period the head is held unsteadily and the baby tires easily in its attempts. But from day to day there is a rapid improvement in the ability to hold the head steadily erect.

FIVE MONTHS OLD

THE healthy infant who has not been the subject of any serious disease up to this time and whose nutrition has had no set-backs will probably have doubled its birth weight at five months. A baby who weighed six and one-half pounds at birth will now weigh thirteen, a seven-pound baby will weigh fourteen, and so on. If the infant is progressing normally, the weighings may now be reduced so that the weight is recorded every two weeks instead of every week and this interval may be continued until the end of the first year.

About this time the baby will reach for toys and objects which it wishes. It is now able to clearly distinguish objects and make a choice. Previous to this almost anything was acceptable but from now on

THE BĀBY, ITS CARE AND DEVELOPMENT

Selecting the Toys

certain things will appeal more strongly than others. The instinct with many babies is to place all objects in the mouth, and, because of this, some care must be observed in selecting such toys as will not do the little one any injury. Avoid the selection of small objects because of the danger of swallowing, of painted ones because of the possibility of poisoning, of toys covered with hair or wool or which have small or loose parts because of the danger of choking. The best toys are those which are smooth, unpainted and washable. The rubber doll or animal is good, if the unnecessary tin whistle that is usually placed in them is removed. At

Recogniz- ing Persons

five months the infant begins to show clearly that it recognizes certain persons and is evidently pleased or displeased with their presence. As in the matter of toys, so now with the friends, a choice is made, although at first it may not be a decided one. Most babies show a preference for men. Probably because they are not frightened by them rushing up to them and taking them in their arms.

Night Feedings Discon- tinued

This is the time that night feedings may be dispensed with. Occasionally the baby will fight against giving up all night feedings because habit is strong. If the nu-

CHRONOLOGICAL ARRANGEMENT

trition is poor or has been seriously interfered with earlier in life, the night feeding may be continued for several weeks longer.

The interval between feedings which has been three hours until this time may now be lengthened to four hours. Intervals
between
Feedings

If the infant is a healthy, vigorous one, additions may now be made to the diet, as follows: Additions
to the
Diet

Orange juice, two tablespoonfuls, diluted with an equal amount of water; sweetened if necessary.

Junket, one tablespoonful, to be followed immediately by the usual milk feeding. This may be given at noon.

SIX MONTHS OLD

THE temperature of the bath may well be reduced to 95 Fahr., if the babe is vigorous and healthy. The Bath

Playing with the infant may now be indulged in. In fact, this will be beneficial, for as the little one develops it needs exercise more and more and the proper kind of play at the proper time is helpful. For an hour at least before the babe is ready for bed, all attempts at play should be discouraged. There is one very prolific cause Playing
with the
Baby

THE BABY, ITS CARE AND DEVELOPMENT

Sleep of restless, uneasy nights, and that is, playing with the infant just at its bedtime. The infant at this period of life is awake more than before, but it sleeps approximately about two-thirds of the time.

The Soft Spot in the Head The soft spot in the top of the head is called the "fontanelle" and during the first six months of life it apparently increases in size because of the growth of the head, but from now on it will progressively get smaller until it is entirely closed at eighteen months.

Dropoling Along about the third month the infant begins to drool more or less. If the drooling seems now to be active again and the babe persists in biting down hard against objects which it places in its mouth, it is suggestive that the infant is about to cut a tooth. If this is so, and the gums are examined, they will be found slightly swollen and inflamed about where the tooth will come through, or the edge of the tooth may be seen at times through the thinned-out gum. Any time between now and the eighth month, the first teeth may be expected. There is a rather wide variation in the times that different infants cut their teeth so that we are compelled to take averages; the average time for the appearance of the first teeth is between six and eight months.

Where to Look for the First Teeth

CHRONOLOGICAL ARRANGEMENT

The first teeth cut are generally the two lower central incisors. In a general way the time of cutting the teeth is an indicator of the state of the nutrition of the child and if there is any considerable delay in this respect, it is well to report such to the physician. Occasionally there are families in which all the children are slow in getting the teeth. But in most instances delayed teething is due to some more or less severe illness which the infant has had, or to rickets (a disease which is due to faulty feeding. See page 178). The infant's mouth should be kept as clean as possible and this may be done with a piece of gauze or with a camel's-hair brush. If the brush is used it must be constantly kept in a solution of boric acid. The advantage of the gauze is that a clean piece can and should be used every time. Never put butter or honey in the infant's mouth at this time for both are very liable to soften the gums and make them more sore. If the infant's mouth is tender and there is an abundant flow of saliva, the mouth should be wiped out gently with the gauze soaked in ice-cold solution of boric acid and water (one-half teaspoonful to eight ounces), and this will give great relief. If the infant seems re-

Delayed
Teething

Care at
the Time
of
Teething

THE BABY, ITS CARE AND DEVELOPMENT

lieved by rubbing its gums, this may be done gently and with a perfectly clean object (handle of spoon, etc.). If the infant does not show an inclination to eat at this time, it is well not to try and force it or indigestion may result. Remember that at the time of teething the infant requires plenty of fresh air, freedom from all excitement (play, noise, etc.), and a lessened amount of food. There may be a slight loss of weight. The usual course is that the child fails to gain for a week or two and the symptoms of irritability, loss of appetite, and tenderness of the mouth, three or four days. If there is much muscular twitching, if the infant lies in a stupid condition or becomes very excitable, or if the gums are very much swollen, a physician should be notified. It is a common practice among many persons to attribute all sorts of trouble to the fact that the infant is teething. Intelligent mothers will be slow to accept this ignorant explanation of all the ills and conditions which may affect their children during this period. Occasionally, but far less commonly than is supposed, an infant will have more trouble and difficulty with the teeth than is mentioned in the preceding paragraph, but all other causes of

Notions
In regard
to
Teething

CHRONOLOGICAL ARRANGEMENT

trouble must be eliminated before one is justified in accepting the cutting of the tooth as the cause. The cutting of a tooth is a perfectly natural thing and in healthy infants it occurs with very little disturbance. If the baby is greatly disturbed by the cutting of its teeth, an examination should be made of the child to determine what is wrong.

SEVEN MONTHS OLD

ABOUT this time, or perhaps in some cases earlier than this, the infant may ^{Attempts at Sitting Alone} make strenuous attempts to sit unsupported. Such an attempt should meet with discouragement upon the part of the parent. Many infants are injured permanently by too much forcing, and this is one way in which harm may be done. There is a mistaken notion that it is a sign of smartness to have the infant do these things early in life. A parent who is intelligent and has the very best interests of the child at heart will forego any pleasurable pride that forcing may bring about and consider only what is for the best interest of the babe. Rather than encourage the infant to sit alone, discourage such attempts until such time as the babe insists

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Attempts
at
Creeping

upon doing so, for it is then more likely to be ready for the act. The danger of too early sitting alone is the injury which may come to the spine resulting in curvature. This is especially true, if the infant be a weak one, or suffers from rickets. Sometime between the seventh and the eighth month, as a rule, the baby will make attempts at creeping, but it must be recalled that some babies never creep, making no marked attempts at locomotion until ready to walk. On the other hand, if the baby is a good and fast creeper, it will not so soon feel the need for walking and this may prove to be the cause of late walking.

Additions
to the
Diet

The average healthy infant of seven months may have the following additions to the accustomed feedings of milk.

Orange juice, two tablespoonfuls, with the breakfast or early in the morning upon awaking.

About 8 or 9 A.M. cream of wheat, one tablespoonful, cooked two hours and immediately followed by the milk. Noon feeding, a vegetable puree, to replace the usual milk feeding three times a week.

Junket may be given on the other days; one tablespoonful.

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EIGHT MONTHS OLD

USUALLY between now and the end ^{Sitting Alone} of this month the infant unencouraged will insist upon sitting up unsupported. However, it must be carefully watched, for in the excitement of play and reaching for things, the babe will be unsteady and lose its balance, getting many a bump. Although now able to sit erect, do not make the mistake of overtaxing the strength of the little one's back by placing it in a high chair and leaving it there for long periods. The assumption of the upright position for more than a few minutes at a time must be brought about gradually.

Two months after the first teeth have ^{The Teeth} come through, the four upper incisors usually appear. There is not much regularity in regard to the time of the appearance of the first teeth, but after their appearance there is quite a uniform regularity in the times that the other teeth follow. If the baby has cut its first teeth at seven months you may expect the next at nine months (that is, two months later), while if the first appeared at six months, more may be looked for at eight months.

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Additions
to the
Diet

Continuing the gradual additions to the exclusive milk diet, the baby may have the following:

Orange juice, two tablespoonfuls at any time of the day. 8 A.M., cream of wheat, cooked 2 hours, two tablespoonfuls and milk.

Noon. Junket or custard, two tablespoonfuls.

Milk or a vegetable puree.

Four P.M. Stale crust of bread (white) with a liberal amount of butter and the milk as usual.

NINE MONTHS OLD

Attempts
at
Standing

ABOUT this time the infant may be expected to make attempts to stand. The little one may be ambitious to get about and as early as the ninth month may try to pull itself up alongside of chairs, etc., in the effort to stand. It is not well to encourage the babe in this or, as is often done, to place the little one upon its feet in the endeavor to teach it to stand or walk early. The child's legs are not in a condition to give it perfect support at this period, as a rule; the bones are more or less soft (particularly if the infant is not well nourished), and if the nutrition of the babe has been perfect, it is of good weight

CHRONOLOGICAL ARRANGEMENT

and the strain upon the bones is too much. The result of too early assumption of the upright position is the production of bow-legs. The infant will insist upon standing and walking early enough for its own good, therefore do not use any of the forcing methods. The efforts made to stand alone will usually cover a considerable period if the babe is not forced, so that the accomplished act is delayed for about six to eight weeks from the time of first attempt. At eleven months many infants stand alone with considerable ease. The infant is now getting to that state of mental development that it understands some things quite clearly and in its attempts to get about it will receive some falls and bumps. Avoid getting excited at such times and running to the child, picking it up and smothering it with kisses to quiet its crying. In nearly every instance when an infant has such a fall it is much more scared than hurt and a different method of dealing with it will be beneficial. No matter what the injury, never add to the child's suffering by adding excitement to the injury. Always assume that the infant is not hurt, and when the little one falls and starts to do the most natural thing under the circumstances, hurt or

If the
Infant
Falls

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unhurt,—cry—the mother or attendant should laugh away those possible tears, say to the little one in a jolly way, “Oh, that didn’t hurt! Wasn’t it funny?” then laugh and in nine cases out of ten the infant will look surprised for a moment at the lack of excitement and will laugh with you over the fall. If there has been no injury the child is thus taught to disregard harmless falls; if there has been an injury the child is taught to control itself and is in a much better condition to allow some one to attend to the wound.

Additions
to the
Diet

The diet may consist of the following:

Orange juice, two tablespoonfuls, at any time.

Eight A.M. Cream of wheat, cooked 2 hours, two tablespoonfuls.

Oatmeal, cooked 3 hours, two tablespoonfuls (choose one).

Noon. Rice, cooked 4 hours, two tablespoonfuls.

Milk as usual with the cereal.

String beans, mashed or put through a sieve, one tablespoonful. These may be given on alternate days.

Custard or junket, two tablespoonfuls.

Milk or a vegetable puree.

Four P.M. Crackers dried out in the oven or stale bread with butter and milk.

CHRONOLOGICAL ARRANGEMENT

TEN MONTHS OLD

THERE is a period in the life of every nursing mother when the milk secreted by her breasts is lessened in quantity or is deficient in quality. When this occurs the milk does not meet the needs of her growing baby. This period has rather wide limitations so that in one woman it will occur early and in another may be delayed until well into the second year. This brings about the necessity of substituting other food than the breast milk and the procedure is called weaning. Unless it is in the summer season, weaning from the breast should take place at the tenth month and when the process is once started it may well be completed in one month. During the heated term the dangers are such that the risk need not be taken until the cooler weather. But even in summer if there is a persistent failure to gain the safe minimum of four ounces a week it is safer to wean than to allow the infant to be under-nourished. Weaning the breast-fed baby is made easier if the infant has been accustomed from early life to taking water from a bottle as suggested on page 71. All babies differ in regard to the facility with which they will accu-

Weaning
the
Breast-
fed Baby

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tom themselves to a change in their habits of feeding and your little one may rebel at the change. Frequently the little one will not only rebel against the use of a bottle, but will add to that the disadvantage of refusing also to take the breast again. However, hunger soon overcomes this and under those circumstances, weaning is sudden and immediate.

Weaning
must be
Gradual

If possible, weaning should be gradual and is, therefore, best accomplished by substituting at first a bottle for the morning meal. After a few days, or not longer than a week, an additional bottle is added. This second bottle to be given some time during the early afternoon. One week later (or not more than two weeks) the nursings alternate—breast, bottle, breast, bottle. Usually with the giving of three bottles daily the breast milk fails and the advance to full artificial feeding is accomplished in a few days more. The formula used at the time of weaning is one slightly weaker than for the average baby. Diluting with 25 per cent. more water for a few days is sufficient. After weaning the diet is regulated similar to the bottle-fed baby. The care of the breasts at the time of weaning is considered on page 124.

Care of
the
Breasts

Weaning the artificially-fed baby is

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usually a simple matter, because the additions to the diet are so gradual. Weaning from the bottle is not so simple. Between the tenth and twelfth month the infant should be taught to use a cup in place of the bottle. Now is the time to begin by giving a little from the cup or a spoon and gradually increasing the amounts.

Weaning
the Arti-
ficially-
fed Baby

Weaning
from the
Bottle

As the choice of additions to the diet grows, the infant will naturally take less milk, but we should continue to give it with each meal taken, unless otherwise suggested.

Additions
to the
Diet

Orange juice, two to four tablespoonfuls at any time.

Eight A.M. Cream of wheat, cooked 2 hours.

Oatmeal or yellow cornmeal, cooked 3 hours. Two tablespoonfuls of either with milk.

Noon. Rice, cooked 4 hours, two tablespoonfuls.

String beans, peas, lima beans, young beets, mashed or put through a sieve. Two tablespoonfuls of either.

Custard or junket, two tablespoonfuls.
Milk or a vegetable puree.

Beef juice, one to two tablespoonfuls.

Four P.M. Bread, crackers or rusk, with butter. Milk.

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Two things may be taken at the noon feeding besides the milk, as rice and junket, or a vegetable and the custard.

ELEVEN MONTHS OLD

Standing
Alone

IF the infant has not been forced, it may be able to support itself against chairs and other articles about this time, and if so it is an indication that the baby is getting accustomed to the use of its feet and will begin to walk in a few months more. There is some danger in allowing the child to stand too long (that is, for several minutes at a time), or to repeat the act a great many times a day. Its tendency will be to do so, because it is experiencing a new and pleasurable sensation. Under no conditions should a walking-chair or any other such device be used to encourage the infant to stand or walk alone. This is true not alone for this period of the infant's life, but for all periods.

Additions
to the
Diet

While a cereal and milk is sufficient for breakfast, a choice may be made for the infant of two articles of diet besides the milk for the midday meal.

Orange juice, two to four tablespoonfuls.

Eight A.M. Cream of wheat, cooked 2 hours.

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Oatmeal or yellow cornmeal, cooked 3 hours.

Rice, cooked 4 hours. Two tablespoonfuls of either.

Milk.

Noon. Broth (chicken or lamb) or a vegetable puree to replace the milk feeding three or four times a week. Rice, cooked 4 hours, two tablespoonfuls, with or without two tablespoonfuls of beef juice, on days that broth is not given.

String beans, peas, lima beans, young beets, asparagus, baked potato, all well mashed or put through a sieve. Two tablespoonfuls of either. Potato and beef juice may be given together.

Custard or junket for a dessert.

Cornstarch, two to three tablespoonfuls with or without one level teaspoonful of plain grape jelly.

Four P.M. Bread, crackers or rusk with milk.

THE FIRST ANNIVERSARY OF BABY'S BIRTH

UP to the present time your little one has been much of a care and comfort; from this time on the probability is that it will be less of a care and more of a comfort. Not that you will be relieved from

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a great responsibility, but rather that you will be assuming greater ones. The comfort will come, however, with the more numerous instances of immediate result, for heretofore much of that which you have done for your babe has been done in a sort of blind obedience to the dictates of your medical advisor, to prevalent custom or to the advice of experienced friends. And oftentimes you may have questioned the "why" of these things, for their results seemed to be so hazy and distant. But you have done well and now you are ready to accept the most responsible position that any human being can occupy—the formation of a child's character, its very life, and the safe-guarding of its morals as well as of its health. Now the results are encouraging because they are more immediate. From the babe, the influence which you exert upon it for the next few years will never be entirely eradicated, for the influence of a mother is the most abiding. We do not want to be understood as saying that your baby will very suddenly arrive at an age when he will become a responsible being. Throughout these pages we have insisted upon regularity in the child's life and habits. This has its effect upon the health of your baby.

CHRONOLOGICAL ARRANGEMENT

But it also has a marked effect upon the moral nature of the infant. The institution of early systematic training in habits of regularity and order nurtures and helps to develop in the infant a self-control which is essential to strong moral character. Perhaps it has been comparatively easy for you to insist upon regularity up to this time because habits have been formed with the health of the baby as the goal. But now, when the babe shows so much more intelligence and more of the truly human traits, it may be more difficult. Some one will tell you that "It is useless or cruel to try and train a child so young; wait until he gets older and understands better." We concede that the baby at two years will understand better than the infant at one year, but if the training has been lax, the understanding will be all in the wrong direction. If you have been insistent upon regularity and good habits up to this time on account of the baby's health, be even more rigorous from now on. The infant's health and morals demand it. If the infant has remained robust and in good condition the temperature of the bath may be reduced at this time to between 85 and 90 Fahr. Some children are more exhilarated by the lower

The Bath

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temperature (85) than the higher (90). If in using the lower temperature (85) the child shows the slightest signs of discomfort or chilliness, or after the bath it seems to be less active than usual, the use of water at the higher temperature (90) is demanded.

Birth
Weight
Tripled

An infant usually triples its birth weight by the end of the first year, so that if your babe weighed seven pounds at birth, it would naturally weigh twenty-one now. Any serious illness which might have occurred during the first year, or any particular difficulty with the child's nutrition during that time, would, of course, tend to lessen the expected weight at this time. From now until the second year end, it will be well to weigh the child once every month. Some time between this and the fourteenth month of life you may expect the appearance of more teeth. These are the two lower lateral incisors and the four anterior molars, and they come through with quite uniform regularity, four months after the four upper incisors and six months after the two lower central incisors, which are the first teeth cut. They are less liable to make the child uncomfortable or cross because its nervous system is getting stronger as it grows

The
Teeth

CHRONOLOGICAL ARRANGEMENT

older. There is a very wide variation in ^{Talking} the time that infants begin to talk, some infants being unfortunately "smart" in this regard. The fact that the infant talks early is usually taken as an indication of its unusual brightness, and, therefore, it is encouraged by well-meaning but ignorant persons to make advances along this line, to the detriment of the child and the subsequent state of its nervous system. Many babies will be able to distinctly call "ma-ma" and "pa-pa," or make similar expressions with more or less meaning at the age of one year. However, if the babe makes no attempt to talk at this time it should be no cause for anxiety. Now, or ^{Attempts at} within a month or two, the child will suddenly make up its mind to make attempts ^{Walking} at walking, and while these attempts need not be discouraged in healthy children, still the attitude might best be one of assistance to the child without actual encouragement. We cannot too strongly condemn the use of the various chairs and apparatus used to teach the baby to walk (and walk bow-legged in later life), for they are the cause of more crooked limbs than any other factor. The only assistance which the infant should receive must be intelligently applied and that means

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**The Foot
Covering**

that the support may be given by the hands placed in the infant's armpits. Holding the child by one or both of its wrists is a common but dangerous proceeding, as the liability to an injury from a sudden jerking or fall is always present. When the child commences to walk, laced shoes allow much better support to the ankle than do buttoned shoes and these should be provided.

**Additions
to the
Diet**

The meals may now be arranged somewhat in accordance with the following schedule. According to the appetite and general condition of the child, two or more articles may be selected with care at each meal, so that variety is secured. Under ordinary conditions, a child does better with a moderate quantity of two or more articles of diet than a large quantity of one.

Breakfast (7 A.M.):

Juice of one orange may be taken undiluted.

Milk with stale bread (any kind) or rusk.

Cream of wheat, cooked 2 hours.

Oatmeal or yellow cornmeal, cooked 3 hours.

Rice, cooked 4 hours. Two or three tablespoonfuls.

CHRONOLOGICAL ARRANGEMENT

Ten-thirty A.M. Milk, 6 to 8 ounces.

Dinner (1 to 2 P.M.):

Vegetable puree, chicken or lamb broth.

Rice or bread well moistened with beef juice on days that broth is not given.

String beans, peas, lima beans, young beets, asparagus, baked potato, spinach, well mashed or forced through a sieve.

Two to three tablespoonfuls.

Custard, junket or cornstarch (latter with teaspoonful of grape jelly if desired).

Two to three tablespoonfuls.

Sago, Tapioca or rice puddings, made plain.

Supper (5 P.M.):

Bread, crackers, or rusk with milk.

Juice of stewed prunes or juice of one orange (if not given in the morning).

Jelly of grain with milk. (The jelly is made by cooking the cereal selected for 3 hours in a double boiler and forcing through a strainer. Use one-half cup of the cereal to three large cups of water, adding one teaspoonful of salt. This will jelly when cool. When served, reheat and add 2 tablespoonfuls to 4 ounces of milk).

FIFTEEN MONTHS OLD

FOR the past two or three months the infant has probably made more or less

Walking
Alone

THE BABY, ITS CARE AND DEVELOPMENT

effort to walk and has not succeeded very well, and the consequent falls and bumps have made the little one more cautious. About this time of life the baby will be able to walk or run alone and does so with considerable delight.

SIXTEEN MONTHS

Changing
the Diet
in the
Summer
Months

UNLESS it is during the heated term, several additions may be made to the diet at this time. However, if we are approaching the summer months, as for example, if the baby will reach its sixteenth month in June or after, it is better to continue the diet as it is until the advent of cooler weather in the Fall. Otherwise, additions may be as follows:

Additions
to the
Diet

Breakfast (7 A.M.):

Juice of one orange. Prune juice or pulp.

Milk with bread or rusk.

Any well-cooked cereal or breakfast food (preferably oatmeal, cream of wheat, yellow cornmeal, hominy, wheatena). Egg, soft-boiled, poached or scrambled. Never give more than three eggs a week, if at all. They are not the valuable food that many think, many children not being able to take them at all with benefit.

CHRONOLOGICAL ARRANGEMENT

Fatty bacon, cooked very lightly and not crisp, 2 slices.

Ten-thirty A.M.:

Bread, crackers or rusk with milk.

Dinner (1 to 2 P.M.):

Vegetable puree or chicken or lamb broth, fortified with rice or barley in it.

Rice or bread moistened with beef juice, on days that broth is not given.

String beans, peas, lima beans, young beets, asparagus, baked potato, spinach, carrots, squash, well mashed or put through a sieve. Two to three tablespoonfuls. Finely minced chicken, lamb, mutton or beef, one tablespoonful.

Finely minced fish (except mackerel, cod or halibut), one tablespoonful.

Custard, junket or cornstarch. Sago, tapioca or rice puddings.

Grape jelly, two teaspoonfuls.

Juice of strawberries, raspberries, or grapefruit (but no pulp or seeds), one tablespoonful.

Apple sauce or baked apple, one tablespoonful.

Supper (5 P.M.):

Bread, crackers or rusk with milk.

Egg, mixed with bread (only occasionally).

Any well-cooked cereal or jellied grain.

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Fruit juice (if not given in the morning).

ONE AND ONE-HALF YEARS OLD

The Teeth

The Soft
Spot in
the Head

THE four canines are usually cut through some time between the sixteenth and twenty-second month of life. The upper two are called "eye teeth" while the two lower ones are commonly known as "stomach teeth." If the top of the head is felt, it is found that the soft spot that has been there since birth and which since the infant was six months old has been getting steadily smaller, is now entirely hard and the opening closed firmly. If the child has been poorly nourished or is suffering from rickets, the spot (the fontanelle) may not be completely closed over. If there is an uncertainty in this regard, it is wise to consult a physician to ascertain the cause of the delay in closing.

TWO YEARS OLD

The
Teeth

BETWEEN the twenty-second and the twenty-eighth month, the four posterior molars may be expected to make their appearance and from this time on a

CHRONOLOGICAL ARRANGEMENT

considerable amount of time should be expended upon the care of the teeth for they are early subject to decay if neglected. The variety in the child's diet will aid in causing those conditions in the mouth which lead to decay and ulceration of the teeth unless special care is now used to prevent the retention of particles of food in the mouth.

By this time the little one will be able to put words together so as to make itself quite clearly understood, and while the words are such as all children associate with certain objects (as "choo-choo car" for locomotive, "bow-wow" for dog, etc.), yet they are intelligible and intelligently used. If the child has made no effort to speak by this time, it may be because the baby is a deaf-mute, or there may be some mental deficiency present, or the child may simply be unusually backward. However, the condition is of such serious import that a physician must be consulted for advice. It is best to avoid the use of any but the correct names of things in talking to the child. Instead of bow-wow for dog, use the word, dog. If this is done it is surprising how rapidly the child acquires the correct use of words and does not have to unlearn them in later childhood.



PART THREE
THE FEEDING OF INFANTS
AND YOUNG CHILDREN

BREAST FEEDING

THERE is no perfect substitute for a good quality of breast milk, no matter how carefully the selection is made. During the first few months of life, the death-rate is many times greater in artificially-fed infants than in those fed at the breast. These are the two prime reasons why breast feeding should be instituted whenever possible. It is not alone that the breast-fed infant suffers less from digestive disturbances and its nutrition is better, but it resists disease and its consequences better. The most important period is the first three months, because the mortality is highest and it is the most difficult period during which to find an acceptable substitute. These are also all good reasons why mixed feeding (part bottle and part breast) should be used under those conditions in which there is a limited breast milk supply. Even a small amount of breast feeding daily is better

Value of
Breast-
Feeding

Resist-
ance to
Disease
Better in
Breast-fed

First
Months a"
Important

THE BABY, ITS CARE AND DEVELOPMENT

Mixed
Breast
and
Bottle
Feeding

for the infant than none at all. And there are circumstances when it is wise to have the infant breast-fed throughout the day and bottle-fed at night, so that the mother's rest may not be broken. I am convinced now, from a very large experience in both methods of mixed feeding that the one of giving part bottle and part breast at one feeding is much preferable to the alternating of the bottle and the breast. In most instances the fault is in a reduction in the quality and not the quantity of the breast milk and this can easily be made up by a proper formula at the same time that regular stimulation of the breast (through nursing) with the much shortened time allowed the infant at the breast results in a lessened strain upon the mother and usually a gradual increase in the quality of the milk. Not infrequently, the improvement is such that the bottle may be discontinued. For the first two or three days (sometimes longer) or until there is a sufficient supply of breast milk, the infant may be fed every four hours and allowed to spend not more than fifteen minutes at the breast. On the third day the interval should be three hours during the day and two feedings at night and these intervals may be continued until the

Intervals
between
Feedings,
First
Three
Days

Intervals
after
Third
Day

THE FEEDING OF INFANTS AND CHILDREN

third month. After that, one night feeding is sufficient until the fifth month when it may be discontinued. After the first few days the time spent at the breast should not exceed twenty minutes and the infant should not be allowed to sleep at the breast. Many infants take longer because they have been allowed to fall into bad habit. When the supply is abundant, one breast may be used for a feeding, but with a more limited supply an equal length of time should be spent at each breast (as ten minutes at each). When the infant is receiving sufficient nourishment for its particular needs, it has a good color even when in-doors, gains steadily in weight, has normal movements of the bowels, sleeps quietly after nursing, or if awake, is good-natured and contented. The gain will not be less than four ounces a week; in most infants it is more. If there is an insufficient supply of milk or the quality is altered, the infant will cease to gain the safe minimum of four ounces weekly or may lose, becomes irritable, uncomfortable and often sleepless, the muscles becoming flabby and soft and the infant pale. Poor nutrition may depend upon several factors. A scanty supply usually results in the infant remaining a long time

Time
allowed
at Breast

Using
One or
Both
Breasts

Evidences
of Good
Nutrition

Minimum
Weekly
Gain

Scanty
Supply

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at the breast (over twenty minutes) or it may nurse for a minute or more and then turn from the breast with a cry, repeating this several times. Usually there is little or no gain. The only way to determine that the supply is scanty is to weigh the baby (it need not be undressed for this) before and after nursing and do this several times during the day. The difference in weight before and after nursing represents the amount that the infant has taken, calculating that for each ounce gained in weight, one ounce of milk has been taken from the breast. Doing this several times gives us the average. To overcome this, a sufficient number of ounces of a suitable formula should be given to make up the deficiency. This is immediately following the breast. If loss in weight has persisted for several weeks, immediate weaning may be necessary. When the quality of the breast milk is insufficient there is a gradual failure to gain and this usually is the only thing noted unless the fat or the proteid in the milk are seriously disturbed and then other symptoms are added. If the fat content in the milk becomes high, the infant is in quite constant discomfort, may vomit occasionally an hour or two after nursing,

Weighing
Infant to
Deter-
mine if
Milk
Supply is
Deficient

Overcom-
ing Defici-
ency In
Milk

Poor
Quality
of Milk

Fat Con-
tent Too
High

THE FEEDING OF INFANTS AND CHILDREN

and has from three to five or more rather watery, green stools daily. Not infrequently each diaper is stained with such a stool. If the weight remains stationary for two or more weeks, the advisability of immediate weaning must be considered, but if there is some gain in weight, a trial may first be made of abundant rest, light exercise in the open, and careful dieting of the mother, always remembering that the fault is with the milk and not the baby.

If the fat content is too low the infant is constipated and there is a failure to gain steadily or at all. The muscles become flabby and the color poor. The infant is very apt to stay a long time at the breast. When the proteid is too high, the infant has frequent attacks of colic, usually associated with constipation and the stools are curdy and passed with much gas. The infant may gain, but it gains at the expense of comfort and is almost constantly irritable and upset. A lessened diet and an increased exercise in the open for the mother, with the giving of an ounce or more of water before each nursing for the baby, may relieve this. If the quantity taken is too large (and this may be determined by weighing before and after nursing), the infant is uncomfortable,

Fat Con-
tent Too
Low

Quantity
Too Large

THE BABY, ITS CARE AND DEVELOPMENT

vomits soon after nursing and is subject to frequent attacks of colic which are persistent. When this is suspected the infant should be weighed and then, after nursing for two minutes, be weighed again; this to be followed by another two-minute period of nursing and another weighing, until we can determine how many minutes it takes the infant to obtain the desired amount. Then the time spent at the breast must be limited to the time required to get the proper amount of milk. It is commonly this fault in the milk that causes early and unnecessary weaning. It would seem with such an easy way to determine the cause of the trouble, a less number of babies would be deprived of the advantages of breast feeding. As a fact, we find that many of these babies are weaned at once.

THE NURSING MOTHER'S CARE

The Diet

The nursing of an infant is a perfectly normal function and should be carried on with as little change as possible in the right habits of the mother. Inasmuch as there are two beings to provide for, the intake of food may have to be increased. But, unless there are special indications for it,

THE FEEDING OF INFANTS AND CHILDREN

no radical change need be made in the diet from that which was taken with comfort before the advent of motherhood. It may be quite safely assumed that whatever agrees with the mother will not disturb the infant. Too often a radical change is made in the diet and the result is an impoverished milk supply. The diet should be generous in fluids and the meals should be taken regularly. It is a safe plan to enlarge the amounts of the usual diet taken before pregnancy, but never to the point of discomfort; it is unsafe to restrict any given articles that agree, simply on theory or because someone else cannot take them with comfort. If milk has not been taken it is a valuable addition to any diet and a quart or less may be given in the twenty-four hours. While certain articles of diet (as tea, oatmeal, gruels, etc.) seem in some women to increase the amount of milk, the general plan of stuffing every mother with these things is wrong. An over-fed mother will soon suffer digestive disturbances and this will, in turn, affect the milk and the infant.

Stuffing
Harmful
and Unne-
cessary

Attention to the bowel function is most important. It is not sufficient that the bowels move once a day, but they must move adequately. Despite the fact that

Attention
to Bowel
Most Im-
portant

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the belief is very popular, diet has very little influence upon this habit and dieting may injure the milk. The use of olive oil (tablespoonful one hour after a meal) or molasses (with the meal) is effective in some cases, but the most uniform results are obtained from mineral oil or Cascara. The fluid extract of Cascara Sagrada may be taken (one to two teaspoonfuls) at night and the dose gradually reduced as the habit of constipation is overcome. The mineral oil may be taken first thing in the morning (one to two tablespoonfuls). These do not affect the nursing infant. If the bowels have not moved during the day, an enema (hot, soapy water) should be given before retiring, but the enema should be given as an emergency measure and not used as a routine. It is essential that the nursing woman have plenty of fresh air and light exercise in the open and that as far as possible the household regime be adjusted to conduce to a contented, tranquil mind. Slightly more than the usual amount of sleep should be taken. From the start, regularity must be the key-note of all nursing, for this conduces to the avoidance of digestive disorders in the infant and disturbances of the milk supply in the mother.

General
Hygiene

Sleep

Regular-
ity

THE FEEDING OF INFANTS AND CHILDREN

It is a foolish prejudice that contends that the young infant is not capable of training. It is a wise plan to train the infant early in the use of the nursing bottle, so that if the necessity arises, it is possible to give one or more bottle feedings. At the age of one month, or when it is assured that nursing is well established, one or two ounces of sweetened water may be given from the bottle, or a suitable formula may be substituted for one of the breast feedings allowing the mother a period of rest. This accustoms the infant to the bottle so that when the time for weaning comes the process is made easier.

**Training
the Infant
to Bottle**

If the mother has tuberculosis or any serious chronic disease or is in a run-down or chronically nervous condition, she should not attempt to nurse the infant. Most women do not menstruate while nursing their offspring. There is a popular notion that when menstruation begins nursing must stop, but this is wrong. The worst that happens is a slight change in the milk and a possible slight discomfort in the infant for one or two days, but this only requires dilution of the breast milk by giving the baby one or more ounces of sweetened water just before each breast

**When the
Mother
Should
Not Nurse
the
Infant**

**Menstru-
ation and
Nursing**

THE BABY, ITS CARE AND DEVELOPMENT

feeding. It is not necessary to continue this for more than one or two days.

Care of Nipples

Immediately after each nursing the nipples should be bathed with a saturated solution of boric acid and gently dried. If the nipple is cracked or fissured, the baby

Cracked Nipple

should not be allowed to nurse from it directly, but through a nipple shield. Nipples that are allowed to remain wet after nursing or which are not thoroughly cleaned are very apt to become tender and crack. A baby drawing upon such a nipple causes more or less pain and this may be sufficient to distress the mother to the point of changing the character of the milk.

Leaky Nipples

A leaky nipple, that is, one in which the milk constantly escapes, is particularly liable to crack and become infected and besides the frequent washing and drying requires the constant use of a pad of absorbent cotton, which must be renewed at every nursing. When the nipples are sore or cracked, the part affected should be painted twice a day with a ten per cent solution of nitrate of silver until healed and the nipples washed thoroughly each time before and after the baby nurses.

Engorged Breasts

An engorged breast (too full) is not alone a source of pain to the mother, but may interfere with nursing so that the infant will

THE FEEDING OF INFANTS AND CHILDREN

make only spasmodic attempts. Gentle kneading of the breast a few minutes before the infant is placed at it is usually all that is necessary to start a steady flow of milk, but in some instances a breast pump may be necessary.

WEANING

THE decision to artificially feed the infant must in every instance rest with the physician. It is far too important a matter for another to determine. Before the decision is made, the whole feeding history of the infant must be reviewed and a thorough examination made of the baby. An examination of the breast milk is not so important because no matter how well it shows up under laboratory tests, it is the effect of the milk upon that particular baby that we are concerned with. Therefore, the examination of the baby is more necessary. No examination of the breast milk is complete unless there is an analysis of the mixture of several specimens taken at different times of the day and even then there is the difficulty that the milk may vary from one day to another.

Examina-
tion of
Breast
Milk

Of the reasons that may make weaning necessary, pregnancy in the mother is

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Reason for Weaning as regards Mother most important. When this takes place, weaning must be accomplished at once. Serious illness, or a chronic nervous or run-down condition is sufficient reason for

Reason for Weaning as regards Infant weaning. As regards the infant, the chief reason for weaning is stationary weight or loss of weight persisting. However, the cause of the failure to gain must first be thoroughly investigated as suggested in the chapter on Breast Feeding (pages 113, 114, 115).

Age for Weaning Unless it is during the heated term, the infant should be weaned from the breast about the ninth or tenth month and when the process is started it may well be completed within one month. In summer, the

Weaning in Summer start may be delayed unless there is a persistent failure to gain a minimum of four ounces a week under which circumstances it is safer to make the change than allow the infant to become under-nourished.

Weak Formula at Start When the infant is weaned, the formula selected must be one of slightly less strength than for the average infant of that weight and activity, otherwise digestive disturbances will result. The usual reduction demanded is 25 per cent. That is, taking the formula suited for the average infant, it is reduced by adding one-quarter part water for a day or two and

THE FEEDING OF INFANTS AND CHILDREN

then the water is gradually withdrawn, so that the full strength mixture is taken within a week or two. The baby probably will not gain as rapidly as before weaning, until it has had time to adjust itself to the new conditions. Sometimes the giving of accessory feedings to the artificially-fed baby is called weaning, and this may extend over a considerable period because it is common to find babies who require the addition of other food to the all-milk diet at the age of a very few months. Between the tenth and twelfth month the infant should be taught to use the cup in place of the bottle. If delayed beyond this time, the bottle habit becomes fixed and may only be broken later through hunger. At first, the baby is given very little from the cup or spoon and this is increased gradually until the whole amount of nourishment is taken that way.

Weaning should not be undertaken suddenly. The infant should become accustomed to one (or not more than two) bottle feedings before the attempt is made to increase it. Usually with the giving of three bottles daily, the breasts quickly fail and the advance to full artificial feeding must be accomplished within a very few days. At times it is desirable that the

Stationary
Weight
during
Weaning

Weaning
from the
Bottle

Weaning
should be
Gradual

mother leave the baby in charge of another for a day or two while the complete weaning is being accomplished.

Mixed
Feeding

Mixed feeding, or the substitution of the bottle for part of the breast feeding, and the reasons which make it necessary or desirable, is considered under Breast Feeding (page 112).

Care of
Breasts

The care of the breasts at the time of weaning is not difficult except in the early months. If the infant has been nursed for seven or eight months, usually all that is required is the relief of the breasts by massage, taking off sufficient milk to relieve the discomfort. If as little liquid is taken as is consistent with comfort and the breasts are bound with a snug bandage or towel, the milk usually disappears in two or three days. When the weaning is more sudden or takes place in the earlier months, all areas that hardened should be softened by massage and the breasts be tightly bound. Withdrawal of fluids may be necessary to the point of discomfort and the giving of a brisk cathartic which causes watery stools is valuable. Citrate of magnesia answers the purpose well and should be taken daily for from two to five days.

ARTIFICIAL FEEDING

IN this country, the milk of the cow is almost invariably used for the artificial feeding of infants. An artificially-fed infant must have good milk and this means that it must be drawn from a healthy cow. The milk must not only be good, but it must be clean and as fresh as possible. In fact, freshness is one of its most desirable qualities. Milk that is consumed within a short time after it is drawn from the cow does less harm even though it be gathered with less care than an older milk gathered with greater care. After several hours, bacterial growth begins in milk and even in the cleanest milk. If the milk is consumed shortly after the milking time, there is not sufficient time for great bacterial growth before it is passed out of the body. This is one reason why milk as ordinarily gathered on a country farm without many precautions as to strict cleanliness agrees with most children; freshness makes up for the lack of cleanliness. Clean milk requires strict precautions in its gathering, so that no dirt, cow-hairs, flies, dust, hay, seed or other contaminating materials get into it. Such substances contained in the milk favor the rapid development of bac-

Importance of
Milk
Supply

Advantages of
Freshness

Clean
Milk

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terial growth and may soon render the milk unfit for the infant's use. Loose can-milk and cream as found upon sale in the large towns and cities is not fit for infant feeding. Loose milk in cans cannot be kept at a temperature below 50 Fahr., which is necessary to limit bacterial growth and the constant opening of the can to supply others allows the ingress of all kinds of contaminating filth. Usually the one who gets the first dip gets the best, while the last purchaser gets something that is an apology for milk. The usual loose cream is kept until such time as it thickens and looks richer and is more readily saleable, and as this thickening is but one evidence of its lack of freshness, it should be discarded. The milk used in the country is, with a little care, gathered clean and fresh. The necessity for transportation adds to the dangers of contamination. Long hauls mean a lessened freshness. Under average circumstances in the summer time, milk that is more than twenty-four hours old should not be used. Forty-eight hours is a safe period in the winter but even much less than that time is desirable.

Loose
Can-Milk

Loose
Cream

How old
may Milk
be

Milk from
Mixed
Herd
Best

The milk from a mixed herd is best, because it is much more constant in its proportions. A single cow will give a milk

THE FEEDING OF INFANTS AND CHILDREN

that varies within somewhat wide ranges each day and even at successive milkings while the milk from the mixed herd varies but little at any time. There are several kinds of milk delivered in the towns and large cities and some of these will be considered with reference to their fitness for infant feeding. Often the mistake is made of trying to obtain a rich milk. The milk from the average good herd is best and the change to a much richer milk (as commonly happens when changing residence from city to country) will disturb the digestion seriously. When such change is made the formula should be diluted for a few days. Rich Milk

Certified milk is a product which is gathered under special provisions to safeguard its cleanliness and freshness until it reaches the consumer. It is not a richer milk than ordinary milk, or, at least, there is no attempt to make it so, but its cleanliness is the prime factor in its production. Everything is made subservient to cleanliness. The cows are kept clean, the stables are usually built with special reference to cleanliness, the fodder of the cattle is carefully selected, and no diseased or careless attendants are allowed about the place. All utensils used are sterilized and Certified Milk

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numberless other details are carried out (as tying the cow's tail during milking time to prevent it switching dirt or hairs into the pail), so as to avoid contamination. Usually the certificate that all this has been done is given by some competent milk commission composed of physicians who represent one of the larger medical societies, and such certification is of the most value. The care in production and the cost of doing this, makes the product more expensive than ordinary milk. Sterilized milk is that which has been subjected to a heat of 212 Fahr. (the boiling point), although there is a considerable difference among producers as to how long it should be kept at that heat. This variation is all the way from one to thirty minutes. Sterilization makes milk less nutritious, much more difficult to digest, and its continued use favors the development of infantile scurvy. It may be used during epidemics of typhoid, septic sore throat, or when the milk supply is suspected as uncertain. It may be useful when a long journey is to be taken, as, for instance, when an ocean trip is planned a liberal supply may be put up at one time and if kept on the ice it is ready for use at any time during the trip. It should be used, however, only over

**Sterilized
Milk**

**Disadvan-
tages of
Sterilized
Milk**

**Advant-
ages of
Sterilized
Milk**

THE FEEDING OF INFANTS AND CHILDREN

short periods (a few days at most), and then only under the advice of a physician. To sterilize milk at home, the nursing bottles should be filled with the formula as it is to be used and each bottle stoppered with cotton. Set in a vessel of cold water which reaches half way up the bottles. Let the water boil for thirty minutes. Allow cold water gradually to run into the vessel of hot water and when sufficiently cooled, place the nursing bottles on ice. This is the most inexpensive but not the easiest or safest way to sterilize milk. Sterilizers are made for this purpose which are inexpensive and efficient. Even with the milk sterilized it is impossible to relax in the care which the milk receives because sterilized milk may as readily become contaminated as other milk. Many feel that when milk is sterilized that it is rendered safe for all time and that it may safely be handled with less care, but this is not so. Pasteurized milk requires less heat than sterilized. It is to all intents and purposes a scalding process and is used to destroy the majority of the bacteria found in milk. But the nutritious and digestible qualities of the milk are more or less interfered with also. Pasteurization does not cause any alteration

Home
Steriliza-
tion

Care of
Sterilized
Milk in
the Home

Pasteur-
ized Milk

Disadvan-
tages of
Pasteur-
ized Milk

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Advantages of
Pasteurized Milk

in the composition of the milk. When not certain of the purity of the milk supplied, and particularly during very hot weather, the use of pasteurized milk is of great benefit to the infant. In some cities it is now impossible to obtain any milk that is not pasteurized, except the certified milk or loose can-milk. Ordinary bottled milk is the product of several farms delivered to a creamery, mixed, and bottled there.

Ordinary
Bottled
Milk

Ordinary
Bottled
Milk an
Uncertain
Product

One careless, dirty farmer will, therefore, contaminate the whole product. Ordinary bottled milk may be an excellent product at one time and a very poor one at other times, even when delivered by the same producer. The best that can be said of

Condensed
Milk

it is that its cleanliness is uncertain. Condensed milk is one of the poorest foods upon which to continually feed an infant. When the supply of cow's milk is impure, or a train trip is to be taken, or there is a condition requiring the absolute withdrawal of the ordinary supply of cow's

Condensed
Milk
Babies
usually
Fat but
Flabby

milk, condensed milk may be used. Condensed milk babies (as they are commonly called) are usually fat. They gain more than the average baby on other foods. But fat babies are not always healthy babies. The baby fed on condensed milk for a long time becomes flabby in flesh, is rest-

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less, suffers from colic and indigestion, and is more or less pale. They usually cut their teeth late and have difficulty in cutting them. Such an infant when ill soon shows that it lacks resisting power, and what would be a slight illness in a properly fed baby may prove serious to the condensed milk fed baby. They frequently suffer from rickets and the disease may not be discovered until much harm has been done.

When once mixed, condensed milk must receive the same diligent care as other milk to prevent spoiling and contamination. Dried milks are placed under the same restrictions as condensed milk in the feeding of infants. The infant fed upon them is subject to the same dangers as the one fed upon condensed milk.

Care of
Condensed
Milk

Dried
Milks

There are a great many patent infant foods upon the market, each one claiming to be the best. In trying them it is at best a hit or miss sort of plan, because it is impossible to manufacture a food that will suit all babies. If there is one thing more than another that is constantly being forced upon the physician, it is the fact that infant feeding is an individual problem and that no two babies of the same age, weight, etc., can successfully be fed alike. Because a baby shows a very

Patent
Infant
Foods

Feeding
an Indi-
vidual
Problem

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Disadvan-
tages of
Patent
Foods

Advant-
tages of
Patent
Foods

considerable gain in weight upon one of these foods is no proof that it is the proper food. Many of the patent foods contain large quantities of starch and sugar and these cause a notable gain in weight. But the increase in weight is often at the expense of proper bone and muscle development, so that the baby becomes fat but with flabby muscles and soft bones. The patent infant foods, however, have their advantages as a means of adding an accessory to the diet during dentition, as an aid in overcoming constipation and as substitutes for milk for a short time when it may not be advisable to use fresh milk. They should not be used continuously over long periods to the exclusion of milk.

CARE OF THE MILK IN THE HOME

Handling
the
Bottle

No matter how carefully the milk is gathered and how clean and fresh it is delivered to the consumer, if there is not that diligence in its care in the home which should exist, the milk will be rendered unfit for infant feeding. Two things must be constantly sought:—to keep the milk clean and to keep it cool. The hands of the one preparing the milk must be clean. Before opening the bottle the top and

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sides should be wiped with a clean, damp cloth. Every utensil used must be sterilized. To keep milk from rapidly spoiling, it must be kept at a temperature below 50 Fahr. constantly. Everything that comes in contact with the milk must be scrupulously clean and be kept so. Even the ice-chest in which the milk is kept must be regularly and frequently flushed with a strong solution of soda. All bottles, nipples, spoons and other articles that can be boiled, should be. If any milk adheres to the bottles, it may be loosened by partly filling the bottle with shot or rice and shaking it. After that the bottle is reboiled. The best cork is one of absorbent cotton, which may be burned after being used once. When not in use, all nipples should be kept in a solution of boric acid and the bottles kept in water that has been previously boiled. It would be useless to have the utensils clean if the hands are neglected. The hands should be thoroughly washed in hot, soapy water, carefully rinsed, dried and kept in that clean condition all of the time that the milk is being handled. The pouring of a small quantity of alcohol over the hands just before handling the milk is valuable in securing added protection. The frequent opening of the

Temperature of Milk

Care of Utensils

Care of Bottles

Corks

Nipples

The Hands

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The Ice-Chest family refrigerator prevents the maintenance of a low enough temperature to preserve milk (this can be demonstrated with a thermometer). Perfect cleanliness, combined with sufficient coolness, almost demands that the infant's milk be kept in a suitable nursery ice-chest, or if this is impossible, that the extra precaution be taken in using the ordinary ice-chest. Certain articles of food commonly found in ice-chests contaminate the milk and this should be avoided.

Individual Ice-Chest Desirable A thermos bottle may be used as a substitute for the ice-chest, but for nothing else. Milk may be placed in it very cold and kept so while traveling. It should never be used to carry warmed milk or to keep the milk heated for night feedings. Milk above 50 Fahr. begins to develop bacterial growth and rapidly spoils. Milk kept for even a few hours in this way is unfit for infant feeding.

Using the Thermos Bottle When milk has been partly frozen it does not seem to harm it greatly, but when the weather is severe enough to more thoroughly freeze it, there is an alteration in the fat (which appears in the bottle as an oil) and it is very apt to cause considerable digestive disturbance. The usual symptoms are slight vomiting, quickly

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followed by a more or less profuse diarrhea, which may persist for several days or may become severe enough to be alarming. This occurs principally in infants under six months. When the milk is found frozen, the formula should be diluted one-quarter with water for a day or two. If the cold spell lasts longer it may become necessary to change to condensed milk or one of the patent foods for a very few days. Use one part of the sweetened condensed milk to fifteen parts of water, giving the baby the usual amount at the usual times. The patent foods have to be used according to the directions given.

How to
Treat
Frozen
Milk

GENERAL DIRECTIONS FOR MAKING THE FORMULAS

A whole milk formula is the least complicated to work with and is the one which will agree with the greatest number of average babies. When such formulas do not provide the proper nourishment there is usually some fault which the mother cannot correct unaided and it is safer to delay no longer, but seek the advice of someone competent to find and correct the fault.

Whole
Milk
Easiest to
Work
With

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Whole Milk

By the term "whole milk" we mean undiluted cow's milk shaken up so that there is a perfect mixture. Sometimes it is called plain milk, straight milk or milk. Whole milk is not suitable for the feeding of very young infants, for the following reasons:

It contains about three times as much proteid (the portion forming the curd) as does human milk. The proteid is much more difficult of digestion. It contains only about one-half as much sugar as human milk.

It is not sterile. It has an acid reaction.

To render it fit for infant feeding, we must modify it.

Top Milk

Top milk is not any definite amount taken from milk that has stood until the cream has risen, but may be any number of ounces taken from the top of an unshaken bottle. It may be the top two ounces or it may be the top twenty ounces; it is all top-milk, although differing greatly in composition. For instance, the top two ounces will be greatly richer in fat than the top twelve or twenty. It is important to remember this in making top-milk formulas. For illustration, if the formula calls for ten ounces of the top sixteen ounces from a quart, it is absolutely neces-

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sary to remove the whole sixteen top ounces and then take ten of that. If this was not done the following mistake would occur: the top sixteen ounces contain 7 per cent of fat;—the top ten ounces contain 10 per cent. If but ten ounces was removed, because only ten are required for the formula, we would be giving a 10 per cent fat in place of the desired 7 per cent which would be contained in ten ounces of the top sixteen. The top ounces hold the most fat and the deeper we go into the bottle the less fat each succeeding ounce contains.

When top-milk is ordered for the feeding, it is obtained in the following manner. A quart bottle of milk is allowed to stand undisturbed on or against the ice for from two to four hours (or until the cream has risen) as much of the top milk as is required is then removed. There are three ways of doing this: (1) Pour the milk off slowly and without shaking the bottle. This is inaccurate. (2) Remove it with a cream dipper made for the purpose after having removed the first ounce with a spoon to allow the introduction of the dipper into the bottle. (3) Siphon it off, which is the best method. All that is required to siphon the milk is a long glass

How Top-
Milk is
Obtained

How to
Make a
Siphon

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tube (preferably with a bend in the center making it V-shaped) or a short, 8-inch glass tube fitted with a piece of rubber tubing 12 or more inches long. These should be boiled each time before using. The end of the rubber tubing is pinched tightly and the apparatus gently lifted from the water in which it has been boiled so that the water remaining in the tube and kept there by the pinching of the tube is not jarred out. Still pinching the end of the rubber tube the glass tube end is inserted through the milk to the bottom of the bottle. A vessel is held under the pinched end of the rubber tube to receive the milk which will come from the bottom of the bottle. When the fingers release the pinched tubing, the water in the tube will first escape and that will be followed by the milk from the bottom of the bottle. When enough has been withdrawn, the pinching of the tube stops the further flow. This leaves in the bottle the unshaken and undisturbed top-milk. For instance, if it is desired to use twenty ounces of top-milk, twelve ounces are withdrawn through the siphon from the bottom of the bottle and the balance of the quart (20 ounces) is left in the bottle.

In modifying cow's milk for infant

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feeding, several steps are necessary, as follows:

The proteid (the curd-forming part) is first reduced to about what it is in human milk and this is done by diluting the milk, from two to six times according to the particular need.

This dilution affects at once the proportions of the fat which is diluted also, so cream has to be added to make up the deficiency. Top-milk is used to add the fat element. To bring the sugar to the proper proportions, sugar of milk, cane sugar or malt sugar must be added. The addition of sugar to the milk is not, as is so popularly supposed, to sweeten it; sugar is the most important element of nutrition in the milk and is added for its value as food and not for taste. It is so important that every care must be taken to see that it is present in the infant's food in correct proportions and not simply added to suit the taste. It may be desirable in some instances to have the milk modified in a laboratory and in the cities this is possible but expensive. The orders of the physician are carried out in the laboratory just as they are carried out at a drug-store with a prescription. The milk is delivered to the consumer daily and is ready for use after

What
Modifying
Cow's
Milk Ac-
com-
plishes

Why
Sugar is
Added

Labora-
tory Mod-
ification

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Best Way
to Pre-
pare the
Milk

being warmed and a nipple applied. The safest and simplest method is to prepare the supply which will be needed for the whole twenty-four hours so that the number of feedings and the amounts in each feeding will be calculated. First determine the number of feedings required and the amount in each feeding; as 8 feedings of 4 ounces each— $8 \times 4 = 32$ ozs. The next step is to obtain a mixture which is best suited to the infant's digestive capacity and needs and here again it is only possible to give averages.

SELECTION OF THE PARTICULAR FORMULA

Feeding
is an Individual
Problem

Every infant differs and it is only practical to suggest such formulas to the mother as are suited to the average infant. Those given here are to act as aids to the mother in understanding the principles of the preparation of her baby's food and to assist in those instances in which the advice of a physician is difficult to obtain. It must always be remembered that the successful feeding of an infant is an individual problem. There are averages, but these are being constantly upset by the individual. The formula that will help one

Averages
are being
Constantly
Upset

THE FEEDING OF INFANTS AND CHILDREN

baby may injure another of the same age. It is necessary to consider more than age; the infant's weight, its activity and its surroundings must be studied and particularly its individual needs which may be different than any other baby. The selection of the proper feeding for the infant depends principally upon its weight and its activity. Weight has its influence in this manner; the infant of five months weighing twenty pounds needs more food than the infant of the same age weighing but fifteen pounds. However, it is necessary to consider the activity because a lively, active infant constantly upon the move during its waking hours requires a more liberal diet than the baby that is quiet and less active. Usually the activity influences the appetite and the active infant may demand from 10 per cent to 25 per cent more food than the inactive one. But the appetite is never a safe guide to the infant's requirements because so many babies overeat regularly from habit. If age alone is considered, we are apt to over-feed the small baby and under-feed the larger one. For instance, the baby of five months weighing twenty pounds would require more food than the infant of three months weighing twenty pounds, because

Age only
One
Factor

Import-
tance of
Weight
and
Activity

Influence
of Weight

Influence
of
Activity

Appetite
Not Safe
Guide

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the element of activity is greater in the older baby, even though the weights are the same. The average amounts required in the twenty-four hours would approximate one and one-half ounces of milk (not the formula as completed because that includes water) for each pound of weight. Sugar must be added in the proportion of 5 per cent to 7 per cent in the water used to dilute the milk. The daily amount of food required (not the milk alone, but the completed formula) is approximately two and one-half times the weight of the infant, plus the amount added on account of activity. Before attempting to select a particular formula, have clearly in mind that the three chief elements in the baby's food are the fat, the proteid and the sugar. The fat and proteid will be supplied by the milk; the sugar must be added to whatever is used to dilute the milk. Sugar is always present in milk, but when milk is diluted the sugar in it is diluted also. If milk sugar or malt sugar are used, they should be added in the amounts of two level tablespoonfuls to each ten ounces of the water used to dilute the milk. If cane sugar is used, one and one-half level tablespoonfuls are used to ten ounces, as it is heavier than the other sugars. The dif-

Average
Total
Amount of
Food Re-
quired
(Milk)

The Need
of Sugar

Average
Daily
Amount
of Food
Required

The Three
Chief Ele-
ments in
Food

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ferences between the various sugars are these: Differences In Sugars

Malt sugar is slightly more laxative than the others; is not well borne when the bowel is loose; may cause more or less vomiting. Malt Sugar

Milk sugar is expensive; many grades contain impurities; it is less sweet than the others. Milk Sugar

Cane sugar is the least expensive and answers all the purposes of the others, except that it is not laxative. With these facts in mind, proceed to select the formula: (1) Determine the exact weight of the baby undressed and also if it is in average healthy condition. These formulas are not suited to the malnourished infant or those suffering from digestive faults. If the weight shows a fraction of a pound less than eight ounces, disregard the fraction, but if more than eight ounces count the fraction as one pound. For example: the baby weighing eight pounds and three ounces would be considered as an eight-pound baby;—if weighing eight pounds and nine ounces, as a nine-pound baby. Cane Sugar
To Select a Formula

(2) Multiply the weight in even pounds by one and one-half. This gives the number of ounces of milk needed.

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For example: The ten-pound baby requires fifteen ounces of milk.

(3) Multiply the weight in pounds by two and one-half. This gives the amount of food required in twenty-four hours.

For example: the ten-pound baby requires twenty-five ounces of food daily.

(4) Dilute the number of ounces of milk required by adding enough of the sugar solution to make up the number of ounces required in twenty-four hours. Make sugar solution as suggested on page 142.

For example: the ten-pound baby requires fifteen ounces of milk and twenty-five ounces of completed formula. The difference between the two is ten ounces, therefore, we add ten ounces of the sugar solution to the fifteen ounces of milk.

(5) Consult the table of the average number of feedings given in twenty-four hours and the average intervals between feedings and divide the formula as closely to that scale as possible. A division into the bottles of fractional parts of an ounce may be difficult, so it may be best to make the whole amount easily divisible. For instance, if the whole amount is twenty ounces and it should be divided into seven feedings, it is better to add an extra ounce

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of the sugar solution, so that the seven feedings may be divided into even three-ounce bottles.

Weight, pounds.	Feedings in 24 hours.	Intervals be- tween feedings.
6	7	3
7	7	3
8	7	3
9	7	3
10	7	3
11	7	3
12	7	3
13	6	3
14	6	3
15	6	3
16	5	4
17	5	4
18	5	4
19	5	4
20	5	4
21	5	4

(6) In considering the element of activity and its demand for more food, we add the sugar solution at first in preference to the milk because sugar supplies so much of the heat and energy needed by the active baby. Practically every baby stands sugar well and by adding it in preference to milk we have an opportunity to more carefully study the effect of the formula. From 10 to 25 per cent of the whole formula may need to be added

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if the infant is very active. For example: if the whole formula amounts to twenty-five ounces, but the baby's activity demands more food, add 10 per cent or two and one-half ounces of sugar solution; 20 per cent or five ounces; 25 per cent or six and a quarter ounces. This would make the amount for twenty-four hours, either $27\frac{1}{2}$ ounces, 30 ounces, or $31\frac{1}{4}$ ounces. The number of feedings remain the same; the extra amount is given by adding a part of the extra amount to each feeding.

Lime
Water not
Necessary

Lime water is not used in any of the formulas because it is not needed. There is a popular belief which is very widespread that lime water must be added to all formulas. Somehow or other the notion has gained wide credance that its addition helps to form bone and teeth. It does neither. Sometimes when an infant habitually vomits, the addition of lime water may be of service, but it should not be used as a routine. If used at all, it must be used in considerable amounts, at least one ounce to every five or six of the food.

TO DETERMINE IF THE FORMULA AGREES

General
Condition

The effect of the food upon the baby's general condition (weight, restfulness,

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stool, color, firmness of muscle, etc.) must be carefully watched for a few days. Then a study must be made of the evidences that the food is or may not be suited to that particular infant's needs. If it is found that the formula must be increased or decreased because the digestive capacity of the baby is not the average, that must be made the starting point for future changes. Digestive
Capacity

For example: if a ten-pound baby's digestive capacity is small and the average formula for that weight has to be decreased, so that it approximates that of the eight or nine-pound average baby, when the ten-pound baby gains a pound the increase should not be jumped to that of the eleven-pound baby but to that of the nine or ten-pound infant. On the other hand, if the formula is strengthened above the average, the increases for every pound gained are kept proportionately above the average.

For example: if the ten-pound baby demands an eleven-pound formula, when he reaches eleven pounds he may have the twelve-pound formula, and so on.

The digestive capacity must always be considered and as it is an element in feeding which is subject to wide variations in Use
Weaker
Formulas
at First

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different infants, the weaker formula should be tried first. It is always possible to strengthen a formula rapidly, but if too strong a formula is used in the beginning, digestive disturbances may occur which will make proper feeding impossible for a long time. If the baby is receiving sufficient nourishment for its particular needs, it has a good color even when in-doors, gains steadily in weight, has normal bowel movements, sleeps quietly after nursing, or if awake, is good-natured and contented. The gain must not be less than four ounces a week.

Evidences
of Good
Nutrition

If the food is not suited to the infant's needs, it will cease to gain the safe minimum of four ounces a week, becomes restless, uncomfortable and often sleepless, the muscles becoming flabby and the color pale. The bowel is apt to be irregular and the stool changed in character.

Evidences
of Poor
Nutrition

When the quantity is insufficient, the bottle is finished quickly. The infant becomes restless and uneasy and frequently will attempt to suck its fingers or blanket. There is little or no gain in weight. The giving of an ounce or two of water directly after the bottle is a simple test to determine that the quantity is deficient, because the baby will then take the water greedily.

Quantity
Insuffi-
cient

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When this occurs, the quantity of food should be carefully increased; a half to one ounce at a time. When the quality is poor there is failure to gain and this is usually very gradual, the baby finally showing other evidences of poor nutrition. Sometimes the fault in quality is in one of the principal elements of the food and that alone needs correction.

If the fat content is too low, the infant is usually constipated and there is a failure to gain steadily. The muscles become flabby and soft and the color poor. This is overcome by adding cream to the formula or using a top-milk formula. A safe plan is to remove the top twenty or twenty-four ounces from one quart of milk that has been allowed to stand undisturbed for several hours, using that in the same amount but in place of the plain milk used in making the formula. If there are signs of digestive disturbance after an increase it is best to go immediately to the previous formula and make the increases more gradual.

It will be noted that no provision is made in these formulas for infants weighing less than six pounds. It is my common experience that such infants require special care; they are not sufficiently re-

Quality
Too Poor

Too
Little Fat

Signs of
Digestive
Disturb-
ance

Infants
Under Six
Pounds
Need
Special
Care

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sistant to external influences and are readily the subjects of serious digestive faults. It is, therefore, not safe to leave their nutritional needs to the judgment of someone less experienced than the physician. While they could be fed according to the same plan as the heavier average weight baby, I do not advise it. The whole surroundings and care of such a baby need special skill and attention as well as its diet. If this is given to the infant under intelligent direction, it will grow up to strong, vigorous childhood. Usually the requirements of the baby demand a frequent change in the composition of the diet and if undertaken by the less experienced, serious results may ensue.

DIRECTIONS FOR GIVING THE FOOD

At the time for feeding, the bottle should be removed from the ice-box and placed in a vessel of cold water which nearly covers the bottle. The water is then heated to sufficiently warm the milk. It is then ready for use when thoroughly shaken and the nipple applied. It is a common fault that the nipple may have too large or too small an opening. If too large, the infant gets the food too rapidly and suffers from it, while if too small, it

Faulty
Nipples

THE FEEDING OF INFANTS AND CHILDREN

will become restless and uneasy over the feeding and may refuse to finish it on account of the difficulty of getting it. Quite often these faults of the nipple are not suspected and the formula is blamed and changed when there is no need of it. The temperature of the milk should never be tested by the nurse placing the nipple in her mouth; that is a disgusting, dangerous method. Either force a few drops out upon the wrist or pour a small quantity from the bottle and taste it. The very best method is to use a dairy thermometer placed in the milk. The temperature should be 100 Fahr. when the milk is given. To maintain the heat the bottle may be covered with a flannel bag. The infant should not be allowed more than twenty minutes to finish the meal. At the end of that time the bottle must be taken away and nothing given until the next feeding. This will teach the infant to take the food promptly and not get into the habit of playing with it or keeping the nipple in the mouth over long periods. It is better to start at once and give the feedings while the infant is lying in its crib. If taken up for the feedings, the infant soon begins to demand other attentions (as holding on the lap, walking, rocking), and is apt to

Temper-
ature of
the Food

To Main-
tain the
Heat of
the Bottle

Time
Allowed
to Finish
Bottle

Feedings
to be
given in
Crib

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stay awake after the bottle is finished. The bottle should be held by the nurse until finished or the allotted twenty minutes is up and then taken away and the infant left without further attention.

Rest After Nursing There must always be a period of quiet following the feedings even though the infant remains awake and no one should be allowed to play with or handle the baby for at least thirty minutes.

Night Feedings Night feedings are those which are given between 6 P.M. and 6 A.M. Until the third month it is practical to give two night feedings. After that and until the sixth or seventh month, one night feeding is sufficient. Sometimes it is necessary to continue the night feeding until the infant is one year old. When one night feeding is given, it is usually at 10 P.M.

Calculating the Intervals between Feedings In calculating the intervals between feedings the time is reckoned from the beginning of nursing (not when the infant finishes) until the beginning of the next feeding. If there is continued vomiting after each feeding or for a long time after nursing the infant brings up small quantities of the food, the interval may have to be lengthened. The same is true, if the appetite is poor and the infant leaves some of each feeding.

ACCESSORY FEEDING

ACCESSORY feeding is the giving of other food than the milk to an infant. I have found two common faults in accessory feeding—first, it is not begun soon enough, and second, small tastes of various foods are given with no idea of their value or harmfulness. Regularity is just as important when accessory feeding is instituted as before and when additional food is given it should be with the milk and not as an extra between the feedings. Too often the baby is tried out with a taste of this or a taste of that to see how he takes it and as this is commonly given between feedings, digestive disturbances ensue. The matter of accessory feeding is so important that even at the risk of repeating, I will give the average additions that may be made at the various periods.

Common
Faults in
Accessory
Feeding

"Tastes"
of Food

THREE MONTHS

Whether the infant be breast-fed or not, orange juice should be given. Begin with one teaspoonful, always diluted with an equal quantity of water, once a day. This may be increased one teaspoonful every third day until two tablespoonfuls are

Addition
to Diet
at Three
Months

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taken daily. It has a slight effect upon the bowels, but is not given for that purpose, but to prevent the occurrence of scurvy which occurs rarely in breast-fed babies but commonly in those fed upon condensed milk, dried milks, sterilized milk and the patent infant foods. The juice should be given two hours after the morning feeding during the first six months, but after that it may be given at any time. It does not affect the milk as is so commonly supposed. In later childhood I have commonly given orange juice mixed with milk (one-quarter juice and three-quarters milk) and if served cold it makes a delightful, refreshing and nutritious drink.

Six
Months
Diet

SIX MONTHS

Orange juice; two tablespoonfuls.

Noon feeding. Junket; one tablespoonful, followed by the usual milk feeding.

Seven
Months
Diet

SEVEN MONTHS

Orange juice, two tablespoonfuls with breakfast.

Eight A.M. Cream of wheat (cooked 2 hours), followed by the milk.

Noon. Vegetable purée (to replace the usual

THE FEEDING OF INFANTS AND CHILDREN

milk feeding), three times a week. Junket on other days.

EIGHT MONTHS

Eight
Months
Diet

Orange juice, two tablespoonfuls.

Eight A.M. Cream of wheat (cooked 2 hours), two tablespoonfuls. Milk.

Noon. Junket or Custard, two tablespoonfuls. Milk or vegetable puree.

Four P.M. Stale crust of bread with butter. Milk.

NINE MONTHS

Nine
Months
Diet

Eight A.M. Orange juice, two tablespoonfuls. Cream of wheat (cooked 2 hours). Oatmeal (cooked 3 hours). Two tablespoonfuls of either. Milk.

Noon. Rice (cooked 4 to 5 hours), two tablespoonfuls. String beans, mashed and put through a sieve; one tablespoonful. (Select one.) Custard or Junket, two tablespoonfuls. Milk or vegetable puree.

Four P.M. Crackers dried out in oven or stale bread with butter. Milk.

TEN MONTHS

Ten
Months
Diet

Eight A.M. Orange juice, two to four tablespoonfuls. Cream of wheat (cooked 2 hours). Oatmeal or Yellow Cornmeal (cooked 3 hours), two tablespoonfuls.

Noon. Rice (cooked 4 hours), two table-spoon-

THE BABY, ITS CARE AND DEVELOPMENT

fuls. String beans, peas, lima beans, young beets, mashed or put through a sieve, two tablespoonfuls of either one. Custard or Junket, two tablespoonfuls. Milk or vegetable puree. Beef juice, one to two tablespoonfuls.

Four P.M. Bread, crackers or rusk with butter. Milk.

Eleven
Months
Diet

ELEVEN MONTHS

Eight A.M. Orange juice, two to four tablespoonfuls. Cream of wheat (cooked 2 hours). Oatmeal or Yellow Cornmeal (cooked 3 hours). Rice (cooked 4 hours). Two tablespoonfuls of either. Milk.

Noon. Broth (chicken or lamb), or a vegetable puree to replace the milk three or four days a week. Rice, two tablespoonfuls with or without two tablespoonfuls of beef juice, on days broth is not given. String beans, peas, lima beans, young beets, asparagus, baked potato, all well mashed or put through a sieve. Two tablespoonfuls. Custard or Junket. Cornstarch, two to three tablespoonfuls, with or without one level teaspoonful of plain grape jelly.

Four P.M. Bread, crackers or rusk with butter. Milk.

Twelve
Months
Diet

ONE YEAR

At this time it is well to begin to arrange the feedings in accordance with the plan indicated below.

Breakfast (7 A.M.) :

Orange juice from 1 orange.

Milk with stale bread or rusk.

THE FEEDING OF INFANTS AND CHILDREN

Cream of wheat (cooked 2 hours).

Oatmeal or yellow cornmeal (cooked 3 hours).

Rice (cooked 4 hours). Two or three table-spoonfuls of either.

10.30 A.M. Milk, 6 to 8 ounces.

Dinner (1 to 2 P.M.):

Vegetable puree or chicken or lamb broth.

Rice or bread well moistened with beef juice on days that broth is not given.

String beans, peas, lima beans, young beets, asparagus, baked potato, spinach, well mashed or put through a sieve; two or three tablespoonfuls.

Custard, Junket or cornstarch (latter with teaspoonful of grape jelly). Two or three table-spoonfuls.

Sago, Tapioca or Rice Puddings made plain.

Supper (5 P.M.):

Bread, crackers or rusk with milk.

Juice of stewed prunes or orange juice (if not given in the morning).

Jelly of grain with milk. (The jelly is made by cooking the cereal selected for 3 hours in a double boiler and then forcing through a strainer. Use one-half cup of cereal to 3 cups of water and teaspoonful of salt. This will jelly when cool. When served, reheat and add two tablespoonfuls to four ounces of milk).

SIXTEEN MONTHS

**Sixteen
Months
Diet**

Breakfast (7 A.M.):

Juice of one orange. Prune juice or pulp.

THE BABY, ITS CARE AND DEVELOPMENT

Milk with bread or rusk.

Any well-cooked cereal or breakfast food.

Egg; soft-boiled, poached or scrambled.
Never give more than 3 eggs a week.

Fatty bacon, cooked lightly (not crisp), two slices.

10.30 A.M. Bread, crackers or rusk and milk.

Dinner (1 to 2 P.M.) :

Vegetable puree or chicken or lamb broth, fortified with rice or barley in it.

Rice or bread moistened with beef juice on days that broth is not given.

String beans, peas, lima beans, young beets, asparagus, baked potato, spinach, carrots, squash, well mashed or put through sieve. Two or three tablespoonfuls.

Finely minced chicken, lamb, mutton or beef, one tablespoonful.

Finely minced fish (except mackerel, cod or halibut), one tablespoonful.

Custard, junket or cornstarch. Sago, tapioca or rice puddings.

Grape jelly, two teaspoonfuls.

Apple sauce or baked apple.

Juice of strawberries, raspberries or grape fruit (not pulp or seeds).

Supper (5 to 6 P.M.) :

Bread, crackers or rusk with milk.

Egg, mixed with bread.

Any well-cooked cereal or jellied grains.

Fruit juice (if not given in the morning).

Simple
but not
Harmless
Foods

It probably will have been noted that a few articles commonly given are not mentioned so far in the list of accessories.

THE FEEDING OF INFANTS AND CHILDREN

But there are reasons. For instance, toast is commonly given. Cold toast is unpalatable. So is hot toast unless well buttered. When butter is heated it becomes indigestible and hot, melted butter on toast places a strain upon the digestive apparatus. Rather than give it plain, bread is advised which may be well covered with butter, making a very nutritious article of diet. Ice cream could be given after one year, but it is low in food value and the pleasure derived from taking it is not to the child but to the proud parents or fond friends. Stewed fruits add variety to the diet, but the pulp is not very nutritious and sometimes hard of digestion; it is best to give the juice until the child is old enough to eat raw fruit. No sugar is advised for the cereals and little if any should be given because the heat of the cereal melts the sugar, forming a syrup which commonly causes an immediate loss of appetite. Bran bread and biscuits could be used after the second year, but always sparingly as they are apt to irritate the intestine. Cocoa, chocolate and tastes of tea and coffee given in the milk as bribes to the infant to take more milk are undesirable. It will be difficult enough to withhold these articles and others that may be

Toast

Ice-
Cream

Stewed
Fruits

Sugar on
Cereals

Bran
Bread

Cocoa,
Chocolate

THE FEEDING OF INFANTS AND CHILDREN

injurious (as candy, etc.) until the child is capable of taking them, so we should be cautious about deliberately offering them.

Candy

**When to
Give
Candy**

Practically every child has a craving for sweets, and the proper use of candy adds to the joys of children as surely as its improper use adds to the pains. Candy in itself is not harmful; it is the way in which it is given and the habits formed that are. Given before a meal it is quite certain to disturb the digestion or decrease the desire for food. Given directly after a meal it may also interfere with digestion. Given one or two hours after the meal, it is harmless if used in moderation. The

**The Best
Candies
to Give**

ordinary cheap-colored kind should be prohibited. Even a careful selection must be made of the best. Sweet chocolate, molasses candies, plain taffies and Iceland moss are the best. There is an advantage in the use of hard candies which last a long time as the danger of over-indulgence is less.

**The
Candy
Habit**

Many times the desire for candy is the result of habit forced upon the child by parents or friends and is not a real desire for

Cheese

this kind of food. Cheese contains three times the amount of nourishment, ounce for ounce, that meat does. It is only suitable in moderation when the child is capable of most thorough mastication. But-

THE FEEDING OF INFANTS AND CHILDREN

termilk has a distinct use where an abundance of fat is not required. It can be used when whole milk is not well tolerated or when there is a marked dislike for milk which occasionally happens. Potcheese is permitted to the child after the end of the second year. Peanut butter may be used also at this time and occasionally even earlier if the child's diet list needs enlargement or more variety. Plain cakes, while not harmful in themselves, often take away the desire for more nutritious foods.

Butter-
milk

Potcheese

Peanut
Butter

Cake

Eggs should not be given more than three times a week and not more than one egg at a meal. There is a common belief that they are very valuable as articles of diet and because of this they are given too freely. They should be used sparingly, some children not being able to take them at all with comfort.

Eggs

SUGGESTIONS AS REGARDS PREPARATION OF THE FOOD

If the vegetables or cereals appear in the stool as lumps or undigested particles, it is the fault of their preparation; they should be cooked more thoroughly or in the case of vegetables mashed more finely. Cereals must be cooked at least two hours

Lumps in
the Stools

THE FEEDING OF INFANTS AND CHILDREN

and it is necessary to cook some more. Oatmeal and cornmeal need three hours and rice four to five hours.

Canned
Vegeta-
bles

Canned vegetables may be used. As a matter of fact, the most perfect and best fruits and vegetables are selected for canning because they keep better and the imperfect ones are sent immediately to market. To the adult taste canned goods lack that freshness that is so desirable, but young children do not appreciate this and take them readily. In the matter of nutrition the canned vegetable contains as much as the fresh; it is only the taste that is lacking. Canned broths should not be used as they are too highly seasoned and are so diluted that they are less valuable than the home-made.

Canned
Broths

Forcing
the Child
to Eat

Forcing the infant to eat is never necessary. It is a bad practice. Hunger is the best sauce and if the child is given a reasonable time at the table and not coaxed to eat, when taken from the table hungry and compelled to wait for food until the next regular meal, he soon realizes that eating is a duty that must be performed with promptness and less trouble will be experienced in feeding him. The food should be served attractively; it was an unwise policy that considered that any-

Serving
the Food
Attrac-
tively

THE FEEDING OF INFANTS AND CHILDREN

thing was good enough for the baby and one that is fortunately passing. Many of the dishes made for children are attractive with their pictures and designs and their use is to be encouraged.

In placing milk or broth in a nursing bottle it must be remembered that the marks blown in the glass to indicate the ounces is very inaccurate. It is not safe to depend upon this as a measure, because each bottle differs. A graduated measuring glass should be used.

Measure
on Bottles
Inaccu-
rate

PART FOUR

COMMON AFFECTIONS OF
CHILDREN

With Suggestions as to Prevention and the Care
in the Home and Co-operation with the Physi-
cian.

CATCHING "COLD"

THIS is a somewhat indefinite term which means something different to each mother, but as the general principles and management are the same in all cases, it is not necessary to define what is meant clearly. The children who take cold so rapidly are usually considered very delicate. Catching cold is due to two factors—the body which becomes the favored soil because it is prepared for invasion, and the germs which being implanted upon a favored soil, develop. The germs are present at all times, but at some seasons and under some conditions they are more numerous than at others. Why does a child then not always have a cold if these germs are abundant? Because the body—the soil—is unfavorable to their development, and if care is taken to keep that body in such a condition, the child will not

Catching
"Cold"
an Indefi-
nite Term

Why
Children
Catch
"Cold"

THE FEEDING OF INFANTS AND CHILDREN

What
makes
Child
more
Suscep-
tible

be subject to colds. The things which contribute very largely to making the body of the child a very favorable ground for the development of the germs, are lowered resisting power or depressed vitality. These may be present even though the child looks healthy and well. The presence of the disease called rickets, obstructions in the nose, especially adenoid growths or enlarged tonsils, sudden chilling of the body surface which checks excretion, and general muscular flabbiness which comes with over-growth as seen in babies that are too fat, are also things which help to lower the resistance of the

Surround-
ings may
Need
Change

Need of
Fresh Air

baby. It is very evident, then, that to avoid the recurrence of these colds, the proper thing to do is to put the child's body in a state in which it can successfully resist all changes of temperature. In every instance the immediate surroundings of the child must be changed, so that the resisting power may be strengthened. The first requisite is an abundance of clean, fresh air, for in nine instances out of ten the child has been robbed of this very thing. Fresh air does not mean a draught, and an abundance means that it must be supplied both day and night. If the doors of a room are shut and the windows widely

opened, the danger of a draught is almost if not entirely eliminated. However, for further protection from the possibility of draught or dampness, four or five thicknesses of cheesecloth may be stretched upon a frame made for that purpose by the handy man of the house and this fastened securely over the sash, covering the space where the window will remain opened. Night air in itself is not at all harmful, but the danger comes in having too little bed covering, for every one's resistance is lowered at night. The second requisite is plenty of warm clothing rightly placed. We cannot consider it rightly placed if the body is warmly clad, while the legs or arms are bared. You know from experience, that if your hot coffee is served in the morning in a very small cup it cools much quicker than if served in a larger one; now the very fact that the child is small and its skin surface proportionately large makes rapid cooling possible and that creates the demand for extra clothing to counteract that chilling of the surface. Protection does not mean overabundance of clothing. If over-burdened the child will perspire easily upon exertion and that is a prolific cause of depressed vitality. The third requisite is attention

Night Air

Influence
of the
ClothingOver-
DressingGeneral
Health

THE FEEDING OF INFANTS AND CHILDREN

to the general health of the child and the improvement of it by a diet suited to its immediate needs, by properly conducted exercises or measures to improve the capacity for breathing, and possibly a well-selected tonic.

THE BOWELS

Normal
Number
of Stools

Character
of the
Stool

Training
the Child
in Regu-
larity

The bowels usually move three times a day during the first days of life, but one good free evacuation daily is sufficient or two smaller ones. However, it is not so much a matter of how many times as the character of the movements. The stool should be soft (of the consistency of putty), yellow and smooth (containing no lumps). The color may be changed to green if the stool is allowed to remain on the diaper for more than a short time or to a dark brown, if meat juice, the prepared foods or cereal gruels are taken. It is practical at six weeks to train the infant to move the bowels at stated intervals. This may be regulated somewhat according to the habits of the particular infant and if it has been accustomed to one daily evacuation this should be kept up, but if to two, the times chosen should be twice daily. The best method is to select the time of day which will be most con-

COMMON AFFECTIONS OF CHILDREN

venient and let nothing thereafter interfere with the act. Place a small vessel, with the chill taken off, in the lap between the knees and hold the infant with its back against your own chest to support it and then, while in that position, irritate the anus with the tip of the finger until the desired result is obtained. Persist in this; it may have to be done for weeks. The infant will soon associate the position and surroundings with the act of evacuation. Once regularity and habit are fixed, they must be persistently followed up. To aid in the formation of the habit, suppositories of glycerine may be used occasionally, but not as a routine. Enemas as usually given should not be used; they are only suitable for emergencies.

Regularity very Important

Enemas

CONSTIPATION

Constipation after early infancy is a very common source of ill-health. Although the belief is popular, diet has very little influence upon the habit. In children, habit is the great factor; so much so that we might well drop the term "chronic" and call it "habitual" constipation. Many of these children do not need any change in diet, but do need more fluid.

Diet not very Effective

Habit is the Great Factor

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Use of Water	The drinking of water upon arising and upon retiring is often all that is needed.
Use of Fruits	There is no objection to fruit (in a few instances it seems to work) but olive oil an hour after a meal or molasses given with a meal are more certain.
Need of Regu- larity	Any means of relief is at once doomed to failure unless the habit of regularity is immediately instituted and persistently followed up. Nine of every ten cases are due to habit and to nothing else.

DIARRHOEA

Three Chief Kinds of Diarrhoea	There are three chief classes of diarrhoea; the mechanical, the fermentative, and the infectious. Mechanical diarrhoea is fairly common in those over one year of age, being caused by mechanical irritation of the intestine from undigested foods. Raw fruits are a very common cause. The stools usually number four to eight in 24 hours and likely to contain undigested food particles. Vomiting may accompany the diarrhoea. The treatment consists in clearing the bowels of the offending material by giving a dose of castor oil or citrate of magnesia and giving water and other fluids (as cereal waters, broths and fruit juices in water), but no milk for
Mechani- cal Diarrhoea	
Treat- ment of Mechan- ical Diarrhoea	

COMMON AFFECTIONS OF CHILDREN

12 or more hours and then very gradually resuming the usual diet.

Fermentative diarrhoea is more serious and is commonest in very young babies. It is caused by decomposition of food in the intestine which, in turn, may be caused by over-feeding (especially with sugars), over-heating, over-excitement. The most important part of the treatment is the feeding. No food should be given for at least twelve hours; only water. Then begin cautiously by giving one-fourth skim milk and three-fourths water or a cereal water without sugar. Gradually increase the skim milk until it equals in amount the milk that has usually been taken, still leaving out the sugar until the diarrhoea is surely controlled. In infectious diarrhoea we are dealing with a serious condition. Usually the stools are numerous (6 to 20 or more a day), with little fecal matter, but large amounts of mucus and very offensive in odor. While quite common in the summer months, it may occur at any season. The immediate treatment should be the absolute withholding of all food and the giving of nothing but sterile water in small quantities (1 or 2 tablespoonfuls) and often (every 10 to 20 minutes) for at least twelve hours or more. A cereal

Fermentative
Diarrhoea

Treatment
of Fermentative
Diarrhoea

Infectious
Diarrhoea

Treatment
of Infectious
Diarrhoea

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water may be given in place of plain water. The further treatment and return to the diet is too serious a matter for the mother to attempt. The return to the normal diet must be very slow. No matter what the type of diarrhoea the child is better protected if at rest (preferably in bed) and kept quiet.

VOMITING

Vomiting caused by Handling Vomiting is very common in young infants and may easily be excited by handling the baby or making unnecessary movements of it soon or directly after feeding. Vomiting, however, should not be confused with eructation which is common in babies. Eructation is the bringing up into the mouth of small quantities of the food and this is done without any apparent effort. On the other hand, vomiting requires an effort and the food is expelled with more or less force. Vomiting from Too Much Food is common when too large a quantity of food is taken and usually immediately follows the meal. If the fat content of the food is too high, the child brings up sour-smelling curds and is apt to suffer from colic also. When vomiting persists the intervals between feeding may be lengthened before an attempt is made to change

Eructations

Real Vomiting

Vomiting from Too Much Food

Too Much Fat

First Treatment for Vomiting

COMMON AFFECTIONS OF CHILDREN

the food. Lifting the baby up and patting its back to raise the gas is unnecessary and harmful; practically everyone would raise gas if forcibly compelled to do so by such methods right after a meal. In some instances vomiting is the direct result of nervous excitement after meals and all that is required is rest in a partly darkened room for thirty minutes after the feedings.

Vomiting
from
Handling

Influence
of Ex-
citement

COLIC

A loud cry occurring several times through the day or night, suddenly developed and as suddenly stopping (especially with the expelling of gas) indicates colic. This may be due to wrong feeding or too rapid feeding. If from hunger the child will continue to fret and cry, but usually not loudly and may suck its fingers. An injection into the rectum of two or more ounces of warm water (with or without five drops of turpentine carefully dissolved in it) will usually afford immediate relief. But in all instances in which colic recurs from day to day the cause must be removed and this will usually mean a readjustment of the food. Babies do not get colic from not wearing

Cry of
Colic

Cause of
Colic

Immedi-
ate Re-
lief of
Colic

Cause
must be
Deter-
mined

THE BABY, ITS CARE AND DEVELOPMENT

a binder or from being taken in the wind as is commonly supposed.

HICCUGH

Causes of Hiccough This is due to a spasmodic contracture of the diaphragm and is commonly caused by taking the food too rapidly or too hot. Less commonly it is due to over-loading the stomach and then may be accompanied by the spitting up of small amounts of the food. It may be relieved immediately by giving a few spoonfuls of hot, sweetened water or a drop of Hoffman's Anodyne in a teaspoonful of water to a child of six months and repeated in twenty minutes if necessary. But the cause should be sought and corrected.

Relief of Hiccough

SCURVY

Cause of Scurvy Scurvy is a diet disease caused by too long continuance upon one kind of food. Most of the cases occur in babies fed upon patent foods, condensed milk or milk that has been cooked. The first signs are usually noted as the diaper is adjusted;—

First Signs the baby cries as if it was hurt. This is especially so if the legs are moved. When the soreness becomes very marked, the

Later Signs

COMMON AFFECTIONS OF CHILDREN

child will refuse to move its legs and may seem paralyzed, or if swelling takes place (as it may later), it may be considered a case of rheumatism. The gums become slightly swollen and have a bluish color. If teeth are present, the gums bleed easily when touched. Black and blue spots may appear in different parts of the body. The infant becomes pale, restless, in evident pain when handled, loses weight and appetite and sleeps poorly. This all calls for an immediate change in the diet. Raw milk must be given, modified to suit the infant's need. One tablespoonful of orange juice should be given every three hours for three days at least. Recovery is very rapid when the right food is given.

Immediate
Change of
Food De-
manded
Orange
Juice

RICKETS

Rickets is essentially a diet disease with hygienic surroundings being also an important factor. Nursing babies are affected with it often if the breast feedings be too long indulged in. Usually the first signs are noted between the sixth and twelfth months. Excessive sweating of the head and baldness of the back of the head are early signs. The infant with rickets sweats easily, is restless, may have fre-

Cause of
Rickets

First
Signs

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Later
Signs

quent attacks of colic, is pale and usually constipated. The muscles are always flabby. Later on, bony changes take place so that the top and back of the head appear flattened and the joints seem to be enlarged. The abdomen becomes enlarged from fermentation. It is not one symptom that leads us to suspect rickets but the combination of several (as restlessness, pale color, flabbiness, large abdomen, sweating, etc.), and these are usually present before the changes take place in the bones. To successfully combat the disease, the diet must be most carefully regulated by someone expert in that work.

Diet in
Rickets

CONVULSIONS

Causes

The unstable nervous system of the infant makes it particularly liable to convulsions—sometimes from slight causes.

Immediate
Treatment

The demand is urgent that the infant receive any needed attention as quickly and as quietly as possible. Strip the infant of all clothing. Mix about two tablespoonfuls of mustard in a basin (three or four quarts) of hot water. Saturate a small sheet in this mustard water and, after wringing it fairly dry, wrap the whole of the infant's body in it, except the head.

Mustard
Bath

COMMON AFFECTIONS OF CHILDREN

Then wrap the child in a blanket. Place cold cloths to the head. Empty the bowels as soon as possible by the use of a large injection of warm water into the rectum. Give these attentions with as little excitement as possible. Wrapping the body in the hot, wet mustard sheet accomplishes the same purpose as would the hot mustard tub-bath (the disadvantage of the tub-bath being that the infant is frightened by its use). In every case of convulsions the physician must be summoned as soon as possible.

Cold to
Head

The
Bowels

Notifying
the
Physician

PRICKLY HEAT

This is one of the very annoying troubles of infants who are dressed too warmly, so annoying at times that it irritates the infant sufficiently to disturb the digestion. The rash consists of very fine red pimples. It is always a sign that the child is dressed too warmly or that the underclothing is irritating the skin. To prevent it, dress the infant lightly and bathe the skin frequently. To cure it, change the underclothing to either a lighter weight or a different texture and bathe the parts affected with equal parts of alcohol and water or bicarbonate of

Cause

The Rash

Preven-
tion

Immediate
Relief

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soda (1 teaspoonful) in water (eight ounces). Then powder well with talcum.

CHAFING

This is more common in fat children and is shown by the skin becoming red and irritated and usually where it lies in folds. Sometimes a thin crust will form over the chaffed parts, making it resemble eczema.

Special
Attention
to Napkin
Area

Treat-
ment

It is rather common to the napkin area and, therefore, these parts should receive especial care as to cleanliness, gentle handling and the immediate removal of soiled diapers. Careful drying without rubbing and the free use of talcum or other powder are preventives. When chafing occurs stop the use of water in bathing the parts; use olive oil in its place, being careful to remove all of the oil if possible before applying a liberal application of either cornstarch, Fuller's earth, talcum or stearate of zinc. If the skin is broken, apply zinc ointment liberally and often.

SUNBURN

Preven-
tion

It is only a dry skin that sunburns, so to prevent it if perspiration is not profuse, apply glycerine or cold cream to the ex-

COMMON AFFECTIONS OF CHILDREN

posed parts. The glycerine may be diluted to one-third. As soon as the burn is evident and before redness becomes marked, cold cream should be liberally applied and frequently renewed.

Treat-
ment

FROST-BITE

It is not possible to do much for frost-bite unless it is very recent and then the circulation may be improved by very frequent and persistent bathing of the affected part with very cold water. In children it most commonly affects the lobe of the ear or the center of the cheek and appears like a bad insect bite. The frosted part is quite hard and slightly reddened. After the first twenty-four hours cold bathing is useless, but the part should be protected against ulceration by bathing occasionally with witch hazel and applying a boric-acid ointment for several days.

Immedi-
ate Care

Later
Care

WARTS

These can be easily removed by caustics, but as their use is attended with some danger to neighboring tissues unless adequate protection is afforded, they should be applied by a physician. How-

Caution
in the
Use of
Caustics

THE BABY, ITS CARE AND DEVELOPMENT

ever, a stick of nitrate of silver may be used safely by the inexperienced, although the method is rather slow but practically painless and harmless.

STYE

Treat-
ment of
stye

Some are very prone to develop styes, especially of the eye. If an eyelash is in the area of inflammation it should be pulled out. The parts should be bathed every hour or two with a tepid boric-acid solution or if there is much swelling or redness this may be used quite hot. Whatever is used in the daytime, at night the lids should be well smeared with vaseline.

Treat-
ment of
General
Condition

If there is a succession of styes, the general condition should be carefully looked into and all faults of general hygiene and feeding corrected.

INSECT BITES

Immedi-
ate Re-
lief

The pain of insect bites may be markedly relieved if ammonia (household or the aromatic spirits) be immediately applied. Soap or a slice of onion will do the same thing. Peroxide of hydrogen is also efficient. If the bite or sting is in the mouth sucking ice may give some relief, but there is always the danger of

Bite or
Sting
within the
Mouth

COMMON AFFECTIONS OF CHILDREN

choking from the swelling caused by the sting or bite. After the immediate relief the parts must be protected against itching which will compel the child to scratch. Zinc ointment or carbolated vaseline are excellent for this.

Later
Treatment

RINGWORM

Ordinary ringworm begins as a small, reddish, scaly patch, which increases in size to that of a silver half-dollar. While increasing, the center heals and thus a ring is formed which makes the diagnosis easy. It is contagious. As soon as the spot is detected it should be painted every twelve hours with tincture of iodine diluted with an equal quantity of alcohol. After a few days any good ointment may be applied. If it affects the scalp it is very difficult to cure, sometimes requiring several months. The hair is affected and breaks off or falls out.

Appear-
ance

Treatment

Ringworm
of the
Scalp

PIMPLES

While more common in older children, pimples may occur in the very young. The principal causes are constipation, over-feeding and continued excitement,

Causes

THE BABY, ITS CARE AND DEVELOPMENT

Treatment

exhausting the child. The treatment consists in finding the cause and removing it. Steaming with hot cloths, followed by massage, is excellent for the affected parts or the accumulations may be anointed with sulphur ointment for several hours and then washed off.

COLD SORE OR FEVER BLISTERS

Appearance

At first there is some swelling and itching at the affected point and then the formation of a few small vesicles. These run together and finally break and dry into yellowish-brown scabs which persist in young children because they almost invariably pick at them and prevent their healing. The treatment is by a mild laxative and the early application of camphor ice or spirits of camphor to the sores or if they have persisted several days use cold cream or zinc ointment.

Treatment

ECZEMA

Eczema Not Contagious

Causes are General and Local

This is a non-contagious inflammation of the skin, causing thickening and reddening of the skin with itching or burning. The cause is poor or wrong nutrition plus some local irritation, as friction, cold, dampness, mucus discharge, etc. It is al-

COMMON AFFECTIONS OF CHILDREN

ways made worse by scratching because the parts are more irritated and become infected. Every case of eczema must be treated by most careful regulation of the diet because without that we can hardly expect a cure. Sometimes milk has to be withdrawn entirely. The surroundings of the child must be made the best possible, although dampness, wind and dust must all be avoided. Water should not be used on the patches, but the skin may be cleaned with olive oil. Boric acid ointment or zinc ointment are simple applications to relieve the intense itching. The hands must be restrained by mitts or by tying if necessary to prevent scratching.

Diet Most
Important

Avoid Use
of Water
Locally

Prevent
Scratch-
ing

HIVES

Hives occur in round red blotches with a whitish center and appear and disappear rather quickly, coming in successive crops over several days at times. Usually the itching is marked and the child scratches and infects them. They usually result from some disturbance of digestion and are often caused by one particular article of food to which the child is susceptible. Vinegar, alcohol, or a paste of baking soda with water applied to the blotches will re-

Appear-
ance

Usual
Cause

Immediate
Relief

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lieve itching. To a child of one year, a teaspoonful of rhubarb and soda mixture may be given every three hours for a few days.

BOILS

Cause of Boils

Boils are not due to "bad blood" (whatever that means) nor are they inherited. They are local abscesses in the skin and continue to appear because the child is allowed to carry the infection from the first boil to other parts by the fingers or clothing. If this can be prevented they will not spread. One of the best applications is alcohol. The boil may be bathed every 30 to 60 minutes with pure alcohol and an alcohol compress left over it. Each suspicious new spot may be painted with iodine tincture once and bathed with alcohol freely and often.

Prevention of Spread

Treatment

GENERAL RULES TO OBSERVE WHEN CONTAGIOUS DISEASE IS SUSPECTED

The Room —First Selection

Select a room in which the child may be completely quiet over a long period if that becomes necessary.

Isolation

Undress the child and place it in bed. Let no other children come into contact with the patient.

COMMON AFFECTIONS OF CHILDREN

Do not bathe the child if an eruption or Bathing rash is present until the physician has inspected it.

Give a mild laxative; two teaspoonfuls Laxative of aromatic syrup of rhubarb or table-spoonful of milk of magnesia. Restrict Diet the diet; if on milk alone, dilute it one-half; if upon solids withhold them.

Give water freely in small amounts but Water often and cool. Fruit juices diluted with water are allowed.

If later, the physician diagnoses a con- The Room tagious disease, strip the room of all un- —Later necessary furnishings, draperies and cur- Attention tains, provide separate dishes for the food and allow nothing to leave the room without being immediately disinfected or placed in boiling water. The dishes, clothing and bed coverings demand particular care.

THE ACUTE ERUPTIVE DISEASES

Under this heading, we include Measles, German Measles, Scarlet Fever and Chickenpox.

These all have several features which are common to all.

(1) All are very contagious. The fact Contagious that a contagious disease is epidemic in a particular locality or school is often the

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first thing to lead to a suspicion that the child may be affected.

Incuba-
tion

(2) There is a distinct incubation period. That is, after exposure to the disease there is a period during which the child remains in apparent health after which the disease develops. These periods vary as follows:

Measles, eleven to fourteen days.

German Measles, fourteen to eighteen days.

Scarlet Fever, one to seven days.

Chickenpox, fourteen to eighteen days.

Recur-
rence

(3) If a child has had the disease it does not usually occur again. Popularly this is not so and instance after instance is recited to show the possibility of numerous recurrences of the same disease in the same child. This is largely the result of error usually caused by certain rashes which closely resemble the eruption of one of these diseases and which is common enough in some children from errors in diet or the taking of certain medicines.

Course

(4) All have a more or less typical course. Recognition depends not upon the eruption alone, but more upon when and where it first appeared and how it spread and what other symptoms are present at the time.

COMMON AFFECTIONS OF CHILDREN

MEASLES

The chief symptoms are those which suggest a cold in the head with fever and inflamed eyes. Sneezing is common and is easily excited by cold air. If the child has been exposed and these symptoms occur, it should be isolated. Often the child complains of light hurting the eyes. A hard, dry cough soon appears. After two or three days the eruption appears first upon the face (about the nose, lips and chin), spreading rapidly to the neck, the upper part of the body, then the arms and finally over the lower portions of the body and legs. This extension (from head to feet) takes about forty-eight hours. The spots at first are small (size of pin head), round, not raised above the level of the skin and of a light red color. They rapidly enlarge and become irregular, of a deeper red color and run into one another. Fever is high and the child loses its appetite almost completely for several days. The disease is not carried by a third party but is highly contagious from the onset even before the appearance of the eruption. Isolation is necessary for at least one week after all sign of the eruption has disappeared. The eyes, which are in-

Early
Signs

Eruption

How
Spread

Isolation

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Care of the Eyes flamed, should be protected against strong light, but the room need not be darkened more than to allow the child to look toward its lightest part without discomfort.

Darkened Room Sore eyes in measles do not come from too much light but from uncleanness. There is considerable secretion about the eyes in measles and unless this is removed sore eyes may result. Use boric acid or salt (two teaspoonfuls of either in a pint of water) every two or three hours as the eye wash. The room must be well ventilated.

Measles "Striking In" The common practice is to darken and shut up the room in fear that the child will take "cold" or the measles will "strike in."

These are prejudices not based upon fact. The bronchitis and pneumonia which often occur during the course of the disease will not be prevented, but may be made more certain to occur in an ill-ventilated room.

Bathing The room temperature should be about 68 Fahr. Sponge baths may be given daily, using water at body temperature (100). Follow also the general rules given on page 186.

Feeding As during the first days there is a marked loss of appetite, the food should be given often and the child encouraged to eat. Sometimes from three to six weeks after measles the child develops a distaste

COMMON AFFECTIONS OF CHILDREN

for the usual food and may become thin and anemic. This must be treated at once and not allowed to continue, as it may prove serious.

GERMAN MEASLES

Usually it is the eruption which first attracts attention because, as a rule, the child does not give evidence of being ill until that time. The eruption looks like that of measles but it is easy to distinguish the two diseases because in German Measles the child does not appear ill, does not give the evidences of a severe cold in the head and usually the glands of the neck are swollen and tender at the time that the rash appears. The rash disappears usually in three days. Isolation should be for ten days. This is a distinct disease from measles and because the child has one it is not protected from the other. The only treatment required is a reduced diet. At times the swollen glands are tender enough to require an ice-bag and a reduction of the diet to liquids alone because of the pain of swallowing.

SCARLET FEVER

Every child exposed to scarlet fever and taken suddenly ill with fever and vomit-

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The Eruption

ing should be suspected as having the disease and be immediately isolated. This is the most common mode of onset. The eruption appears on the first or second day. It begins on the neck and face and upper parts of the body and is often limited to those parts. Usually, however, it spreads very rapidly until the whole body is covered with bright red spots which finally run together so that the appearance is that of a bright red blush. Usually at the joints the rash is thicker and more red. Fading begins in a few hours and may be completed in from one day to a week.

Contagion

The disease is only slightly contagious during the first two days. Mild cases, which are erroneously called "scarletina," are just as contagious as severe cases and it is these mild cases which are allowed about which help to spread the disease. The epidemic is spread by persons and things (clothing, etc.) coming into contact with the patient. Isolation is necessary for thirty-five days or more. All treatment must be under the direction of a physician.

Isolation

Early Signs 'and Eruption

CHICKENPOX

This disease begins with very mild symptoms and the appearance of widely

COMMON AFFECTIONS OF CHILDREN

scattered pimples or small blotches over the scalp, face, neck and body. These rapidly become vesicles which look like blisters filled with water. These break down in a day or two and dry, forming scabs or crusts which take from one to two and one-half weeks to drop off. At the height of the eruption spots in all stages of development may be seen. The child is rarely very sick. Isolation should be continued until every scab falls off; usually two to three weeks. If the temperature is high, the child of one year may have five drops of sweet spirits of nitre in a teaspoonful of sweetened water every hour. For the first few days the child should be kept in bed and the diet slightly reduced.

Isolation

Treat-
ment

Diet

MUMPS

In this disease the swelling is on the jaw and in front of the ear and not under the jaw (although sometimes the glands under the jaw swell in addition). Usually one side is affected but at times both. The appetite is lost and there may be considerable pain upon opening the mouth. Fever is slight. There is nothing to the notion that the child must be kept un-

The
Swelling

Supposed
Danger in
Mumps

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Treat- ment

usually warm to prevent other swellings and particularly an affection of the testicles. All that is required is rest in bed with some slight restrictions to the diet, a mild laxative, isolation until all swelling has completely disappeared and the application of witch hazel or camphorated oil to the swollen part if it gives relief.

CROUP AND DIPHTHERIA

The Two Types of Croup

There are two kinds of croup. One is known as false, simple or catarrhal croup and is not dangerous or contagious. The other is known as true or membranous croup and diphtheria and is contagious and very dangerous. False croup usually occurs in children between the ages of six months and three years, although some children are subject to attacks for several

False Croup

The On- set is Sudden

years. The onset is very sudden, although the child may have been hoarse or had a slight nasal discharge for several hours

The Usual Course

previous. The attack consists of sudden waking with a harsh, hollow barking cough and some difficulty in breathing. If moderate, this may last for thirty minutes or more and subside, but in severe cases may persist for several hours. Sometimes the distress for air is great. Toward morn-

COMMON AFFECTIONS OF CHILDREN

ing there is a gradual improvement and the child falls asleep. Upon awaking there is marked improvement but the second and third nights may be more distressing than the first unless the child is treated. For false croup, wring out a **Treatment** cloth or towel in ice-cold water and wrap it about the child's neck, placing another dry towel or oil silk over the damp one, leaving both there until the attack is relieved. The steam from hot water (it is no use to try to medicate it) either from a large open vessel or a croup kettle is one of the most efficient means of relief. If the breathing is difficult, give one-half teaspoonful of syrup of ipecac every twenty minutes until vomiting occurs or the child is relieved. To prevent a return the following nights, keep the child in bed the following day in a cool, well-ventilated room, on a light diet and give a mild laxative. Give ten drops of syrup of ipecac every two hours throughout the day until the middle of the afternoon and then give the same amount every hour until bedtime. The great difficulty and the great danger is in clearly distinguishing between false croup and diphtheria. The croup caused by diphtheria comes on more slowly; it is not markedly better the next

**Distin-
guishing
between
False and
True
Croup**

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True
Croup

Examina-
tion of
Throat
Important

day, but continues to be as severe if not worse. Usually it is not as alarming to the parents as the false croup and, therefore, may be treated lightly. It is very dangerous to the child's life. In every case of croup the throat must be carefully examined in a strong light and if there are any white spots or patches, not an hour should be lost in notifying the physician. Even if the child is subject to croup, the throat examination must be thorough. I have known children to be carelessly examined during an attack which was supposed to be the usual attack of croup when the real cause was diphtheria.

WHOOPING COUGH

Early
Signs
Like
Bron-
chitis

Charac-
teristic
Cough

This begins very much as an ordinary attack of bronchitis and it may be impossible to detect it for many days. After about ten days the cough gets worse or assumes the peculiar character of coming on in rather distinct spells and being worse at night. The child will cough for a minute or more, often getting red in the face or having tears come in the eyes and will then have a period of one or several hours during which there is no coughing. During the day (if the child is out-of-doors)

COMMON AFFECTIONS OF CHILDREN

the coughing spells are less. At times the cough is severe enough to cause the characteristic "whoop." When this occurs the spell is usually ended by the vomiting of mucus or food. The danger from whooping cough is from an interference with nutrition if vomiting occurs or exhaustion if the spells are severe. The danger from bronchopneumonia is always present and is never due to fresh air as is sometimes supposed. The disease continues for from eight to twelve weeks and is contagious during most of that period whether there is any whoop or not. Some children never whoop during the whole course of the disease. A change of air is of no benefit; it is being out-of-doors that does benefit. If the child coughs in the house the handkerchief into which it coughs should be boiled; if in the street, the mucus or vomited material must be covered with earth. The spells are made easier if the child is taught to grasp the back of a chair and lean forward while coughing or if the parent stands back of the child and places his arms under the armpits of the child, grasping the head in the hands and forcing the child forward. Sometimes considerable relief is obtained by the constant wearing of a snugly fitted belt made for that pur-

The
"Whoop"

Dangers
of Whoop-
ing Cough

Duration
and Con-
tagion

Change of
Air

Guarding
against
Contagion
to Others

Care Dur-
ing the
Spell of
Coughing

Whooping
Cough
Belt

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The Diet pose. Steam inhalations, vapor lamps and all such contrivances are useless in whooping cough. The diet should be arranged so that several small meals are taken daily in place of the usual three meals. When **Feeding after Vomiting** vomiting occurs, feed the child within a few minutes or immediately after it so that the food may remain longer in the stomach. The vomiting is caused by the effort of coughing.

TONSILITIS AND SORE THROAT

High Temperature not Unfavorable If a young child refuses to eat as usual and has fever, the throat should be examined. Not uncommonly the tonsils will be found swollen and reddened or studded with pin-point spots. Temperature may be high. A high temperature with a sore throat is usually a better sign than a low temperature because the less dangerous conditions of sore throat are accompanied by high temperatures while diphtheria, for illustration, which is very dangerous, often develops with little temperature and deceives the parents. The child having frequent attacks of sore throat is usually the victim of the compulsory breathing of hot, foul air; fresh, cold air never causes it. Children rarely complain of sore throat, so

Frequent Sore Throats

COMMON AFFECTIONS OF CHILDREN

never ask "Does your throat hurt?" because the answer will practically always be the same, "No." The child does this as a protection against being put to bed or having the throat examined. If the question is put, assume that you know that the throat is sore and ask, "Which side of your throat hurts?" But the better plan is to look. Have the child open the mouth as widely as possible with the tongue fully extended. If the child does not co-operate, force the mouth open and depress the tongue with a broad-handled spoon until the throat can be clearly seen. The child should be isolated for a few days, usually a week.

Examining the Throat

SWOLLEN GLANDS

In former years a child who had enlarged glands and was poorly nourished was called "scrofulous." This term has no place in modern medicine; we know better. But it showed that there was a recognition of the association of enlarged glands with poor nutrition, anemia, skin rashes, adenoids, etc. In the neck the glands are found under the jaw, at the sides or the back of the neck, or may appear under the arms or in the groin. Be-

Scrofulous Children

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"Kernels"
in the
Neck cause of the prevalence of decayed teeth and adenoids in children, many have one or more small, swollen glands or "kernels." Usually enlarged glands accompany the acute infections, as sore throat, etc. But when this is cured, the glands usually return to their normal condition.

Enlarged
Glands in
Acute
Disease

Local
Causes Local causes are common and the swelling is kept up by decayed teeth, sore mouth, sprue, eczema of the scalp, poor

Treatment nutrition, etc. When the enlargement is first noticed the application of an ice-bag will limit the amount of swelling and at the same time give relief. Local applications of iodine and ointments of various kinds are useless. Usually with the removal of the cause the swellings disappear. A chronic enlargement is common before the fifth year and is relieved by treating the cause and attention to building the child up by giving the right food at the right times and an out-of-door life in the sunshine. As the tonsils so commonly cause swollen glands, the throat should always be examined.

ADENOIDS AND ENLARGED TONSILS

Symptoms
of
Adenoids Adenoids are commonly the cause of restless sleep and the tendency toward fre-

COMMON AFFECTIONS OF CHILDREN

quent colds in the head. They occur in young infants (two months old), but more commonly in older children. Enlarged tonsils are so constantly associated with adenoids that the presence of one leads to the suspicion of the other. The facial expression is dull, the child restless and slightly deaf. Sometimes the mouth is held slightly open and the child becomes a mouth-breather. If there is any interference with health or development, the adenoids must be removed. The operation is a simple one and no other treatment can prove a success. Often they prevent the child from effectively blowing the nose and this adds to the discomfort and the dangers.

Every enlarged tonsil does not demand removal, but whether large or small if they interfere with respiration they are a menace and if diseased they should be removed. The operation is more complicated than that for adenoids alone. If left in the throat, enlarged tonsils and adenoids cause obstruction to breathing, increased liability to throat infections, also to joint and heart infections and tuberculosis. General health is always unfavorably affected and swollen glands, deafness and speech defects are common.

Treatment

Enlarged
or Dis-
eased
Tonsils

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Attention after Operation Mental dullness is often the result and the child is commonly blamed and punished in school and out for inattention and dullness which is not his fault. After the operation the child's general condition should be looked after; too often the operation is performed with the promise of relief and nothing else is done and the child remains only slightly improved. The diet and general hygiene must also receive attention to correct the faults already existing.

SPRUE

Appearance This makes its appearance in the form of small, white, pin-headed-sized spots, usually on the tongue and inner sides of cheeks, but may involve the whole mouth. The spots can be distinguished from milk curds because they are firmly attached and bleed if forcibly removed.

First Signs It rarely occurs after the first few months. Usually the first sign is the infant's refusal to eat as usual.

General Care If breast-fed, the nipples must be washed with alcohol diluted with an equal quantity of water before every nursing and carefully dried. If bottle-fed, more attention must be given to cleaning the bottles and nipples. After every nurs-

COMMON AFFECTIONS OF CHILDREN

ing wash the mouth with the following solution:

Wine of Ipecac, two teaspoonfuls.
Glycerine, one tablespoonful.
Peroxide of Hydrogen, five ounces.
Boiled water, five ounces.

Use this very thoroughly, but also very gently on cotton, so that the mouth will not be injured. Sprue should be cured in a week or less if these attentions are given.

VACCINATION

Vaccination protects only against smallpox. I state this because there is a widespread belief with many that it protects the child against all contagious disease. If possible, it should be done early in life and about the sixth week is a favorable time. However, if the child's nutrition is poor or there is any skin affection, it may be delayed until later. If it does not take at first, it should be repeated in two weeks because an unsuccessful vaccination means nothing. The leg is the best situation for vaccination. A second vaccination must be done at about puberty. There are several methods of performing vaccination and practically all

Vaccination Protects only against Smallpox

Best time to Vaccinate

If it does not Take

Best Situation

Best Method

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depend upon cutting or scraping the skin to allow the vaccine to be rubbed in. There is always the danger of the child scratching the sore or otherwise infecting it. I have used a method for the past few years of introducing the vaccine just under the skin with a needle and always with great success. The skin remains unbroken and protects the part and as there is no open sore no shields or other protection is needed. Vaccination by this method is performed in from three to five seconds. This method may be used by preference, but whatever method is used, vaccination should be done early if possible.

DECAYED TEETH

Causes of Decay	The causes of decayed teeth (dental caries) are local and also constitutional.
Local Causes	The local causes are certain bacteria and conditions in the mouth which favor the retention of food particles (as irregularity of the teeth, too much soft food, uncleanliness and insufficient mastication).
Constitutional Causes	The principal constitutional cause is a lowered resistance (usually due to poor hygienic surroundings or poor nutrition).
Toothache Not always Present	Decay may be evidenced by toothache, but usually is not, so that careful and regular inspection is necessary. The effects of

COMMON AFFECTIONS OF CHILDREN

decay are increased liability to infectious disease, inability to perfectly masticate and a general interference with health. Not uncommonly, pain and swellings about the joints, muscle pains (improperly called "growing pains") and so-called "rheumatism" are due to abscess forming about a decayed tooth. It is an unfortunate notion that the first teeth do not need the same careful attention as the permanent ones and this notion leading to neglect of the first teeth results in harm to the later ones. Prevention demands that there be regular (at least every six months) inspection of the teeth by a competent examiner (dentist or physician) and that the teeth and mouth be kept always in a clean condition. At the first sign of a crack in the enamel or of decay (which is a later result) or the appearance of tartar about the gums, a competent dentist should be consulted; one who will be patient with the child, for some do not care to "bother" with children.

Effects of
Decay

Care of
First
Teeth
Very Im-
portant

Preven-
tive
Measures

Early
Care is
Essential

DIETARY

ALBUMIN OR WHITE-OF-EGG WATER.
Take a four-ounce measure of ice-cold water and stir gently into it the white of

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one fresh egg. Add sugar or salt to taste. If any particles remain, strain it.

This is commonly used as the only nourishment for the baby in cases of disease affecting stomach or bowels. But it must always be remembered that many infants will not tolerate even small quantities of egg without more or less serious disturbance. In health it is occasionally used as an addition to the diet after the third month.

ARROW-ROOT. Two teaspoonfuls of arrow-root mixed into a paste with cold water. Then mix it with one pint of fresh milk at the boiling point and while still boiling stir gently for fifteen minutes. Season to taste.

May be valuable late in infancy when whole milk can be taken, but is not easily digested. The arrow-root may then be substituted for a short time in place of plain milk. Do not use before the tenth month.

BARLEY GRUEL. Two tablespoonfuls of prepared barley to one and one-half pints of water; boil down to one pint, strain and stand aside until it jellies.

If the baby's digestion is weak or it is suffering from an attack of some stomach or bowel disorder, all other nourishment may be stopped

COMMON AFFECTIONS OF CHILDREN

and barley water or gruel given alone. If barley water is used the same amounts are given as of the milk which was stopped. If the gruel is used, two tablespoonfuls of the jelly are dissolved in four ounces of hot water. Barley gruel may be added to the milk of an artificially-fed infant or may be given to the nursing baby after the tenth month.

BARLEY WATER. Add two tablespoonfuls of prepared barley to one quart of water. Place in double boiler and cook for one or two hours. Strain through cheesecloth. May be flavored with sugar, salt or lemon juice.

BEEF-JUICE. Broil or lightly fry a juicy steak and press juice out with a lemon or meat press. Use salt to flavor.

BEEF-TEA. Take one pound of the top part of round steak, one pint of cold water and a little salt. Remove all fat from steak and cut into small pieces. Soak for three hours in the cold water, then bring gently to blood-heat and keep it at that for one hour. Strain, season and reheat for use.

The food value of beef-tea is over-estimated. May be useful in cases of sickness when milk has to be stopped for a time.

CHICKEN BROTH. Remove skin and fat from a cleaned chicken and place the

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chicken in one quart of cold water. Bring to boiling point at once and skim. Then cook slowly until meat is very tender. Add one teaspoonful of salt and a little pepper. Cool and skim off the fat. Re-heat and serve.

CORN GRUEL. Take two tablespoonfuls of Indian meal, one tablespoonful of flour, one-half teaspoonful of salt and one and one-half pints of boiling water. Mix meal, flour, and salt into paste with cold water, then add it to the boiling water and boil for one hour. When used, add about one-half ounce (dessertspoonful) to every ounce of milk. If a far richer mixture is desired, use scalding milk instead of the water, and let the mixture simmer for three hours instead of one.

FLAXSEED TEA. Two tablespoonfuls of whole flaxseed cleansed of the black particles, one tablespoonful of white sugar and a little lemon-juice are placed in a vessel. Pour upon these one quart of boiling water and stand on back of stove for three or four hours. Strain and serve either hot or cold.

May be used at any time. Has some value in relieving the distress due to the first stages of a so-called cold.

COMMON AFFECTIONS OF CHILDREN

JUNKET. One cup of fresh milk, tablespoonful of sugar, tablespoonful sherry wine and one tablespoonful of liquid rennet. Heat milk to lukewarm, then add sugar and wine. Mix well and in three minutes add the rennet. Turn into small moulds and allow to stand until firm. Serve with sugar and cream.

MUTTON BROTH. One pound of loin of mutton in three pints of cold water. Boil slowly until tender and add one tablespoonful of salt, strain and skim off the fat. A little well-cooked rice may be added.

OATMEAL JELLY. One-half cup coarse oatmeal and one teaspoonful of salt are added to three coffee cups of boiling water and cooked in double boiler for three hours. Force through strainer. When ready to serve, reheat, season and add about two tablespoonfuls of the jelly to four ounces of milk (one cup).

OATMEAL WATER. One cup oatmeal added to two quarts of cold water and kept in a warm place (at about 85 Fahr.) for two hours. Strain and cool.

May be used in place of barley water or in alternation with it.

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PEPTONIZED MILK. Into a perfectly clean quart bottle place five grains of Pancreatin and fifteen grains of baking soda. Add cup of cold water to dissolve these. Add one pint of fresh milk and shake well. Surround the bottle with ice and let it stand undisturbed for one hour. Use without heating.

The above is known as the cold process.

The hot process is as follows: mix powders same as above with milk and water as directed in cold process and place the whole bottle in water as hot as the hand can bear and keep it there for ten minutes. Then pack in ice as in cold process.

May be used when digestion is weakened from any cause or when the cleanliness of the milk supply is in question.

Should be used only as a temporary substitute and not for an extended period unless under direct orders of a physician. Its continuous use is apt to lead to the development of Scurvy.

PUREES. These are all made by similar process, and to avoid repetition we will consider them together. A puree may be made of any fresh vegetable, or canned goods may be used. The season will determine what vegetable can be used. The amounts to use are as follows:

COMMON AFFECTIONS OF CHILDREN

Celery—six fair-sized stalks.
Carrots—one dozen good-sized ones.
Corn—six large ears.
Beans—one quart limas.
Peas—one pint.

Clean the vegetable and after cutting it up finely or scraping it, add enough cold water to cover it completely. Allow this to gently boil until the vegetable is very soft. Then force through a fine sieve and reboil the clear mixture for a few minutes (five). Strain again and add one pint of milk or instead a half-pint of cream. Season with salt and at the end of the second boiling add two teaspoonfuls of arrow-root dissolved in a little cold water.

Some vegetables thicken up more quickly than others and in this case it is only necessary to add more water.

For use after the tenth month of life, I consider these purees most valuable. They are easily digested, are highly nutritious, and are eagerly taken by most infants.

RICE WATER. Two tablespoonfuls of rice (or two teaspoonfuls of rice flour) are added to two coffee cups of cold water. Boil until the rice is very soft. Strain and add milk or cream if desired (two-thirds

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milk and one-third rice water, or one-half rice water and one-half cream).

Season with salt.

May be added to diet after the tenth month, if used with milk or cream, but if used alone, it may be given at any time as substitute for milk for a few feedings.

TOAST WATER. Take equal parts of stale bread lightly toasted and boiling water. Let these stand for one hour, gradually cooling. Strain and season.

May be used in place of barley water or in alternation with it.

WHEY. Take one pint of fresh milk and heat to 115 Fahr. (or about as hot as the mouth comfortably will bear) and not hotter. Add two teaspoonfuls of essence of Pepsin, and stir gently until it curdles. Then beat with a fork until the curd is finely broken up. Strain and it is ready for use.

This is a highly nutritious liquid food, and is very useful in place of milk when the latter does not perfectly agree. It may be resorted to to tide over those periods of indigestion which come frequently in some babies' lives, giving it freely in place of milk.

RECORD OF THE INFANT'S WEIGHT

At birth	.....	lbs.....	oz.
One week	.....	lbs.....	oz.
Two weeks	.....	lbs.....	oz.
Three weeks	.....	lbs.....	oz.
One month	.....	lbs.....	oz.
Five weeks	.....	lbs.....	oz.
Six weeks	.....	lbs.....	oz.
Seven weeks	.....	lbs.....	oz.
Two months	.....	lbs.....	oz.
Nine weeks	.....	lbs.....	oz.
Ten weeks	.....	lbs.....	oz.
Eleven weeks	.....	lbs.....	oz.
Three months	.....	lbs.....	oz.
Thirteen weeks	.....	lbs.....	oz.
Fourteen weeks	.....	lbs.....	oz.
Fifteen weeks	.....	lbs.....	oz.
Four months	.....	lbs.....	oz.
Seventeen weeks	.....	lbs.....	oz.
Eighteen weeks	.....	lbs.....	oz.
Nineteen weeks	.....	lbs.....	oz.
Five months	.....	lbs.....	oz.
Five and a half months	.....	lbs.....	oz.
Six months	.....	lbs.....	oz.
Six and a half months	.....	lbs.....	oz.
Seven months	.....	lbs.....	oz.
Seven and a half months	.....	lbs.....	oz.
Eight months	.....	lbs.....	oz.

THE BABY, ITS CARE AND DEVELOPMENT

Eight and a half months	..lbs.....oz.
Nine months	.....lbs.....oz.
Nine and a half months	..lbs.....oz.
Ten months	.....lbs.....oz.
Ten and a half months	..lbs.....oz.
Eleven months	.....lbs.....oz.
Eleven and a half months	..lbs.....oz.
One year	.....lbs.....oz.
Thirteen months	.....lbs.....oz.
Fourteen months	.....lbs.....oz.
Fifteen months	.....lbs.....oz.
Sixteen months	.....lbs.....oz.
Seventeen months	.....lbs.....oz.
Eighteen months	.....lbs.....oz.
Nineteen months	.....lbs.....oz.
Twenty months	.....lbs.....oz.
Twenty-one monthslbs.....oz.
Twenty-two monthslbs.....oz.
Twenty-three months	...lbs.....oz.
Two yearslbs.....oz.

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